



MSMR

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Army Medical Surveillance Activity

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Data in the MSMR are provisional, based on reports and other sources of data available to the Army Medical Surveillance Activity. Notifiable events are reported by date of onset (or date of notification when date of onset is absent). Only cases submitted as confirmed are included.

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Editorial Comment

Since the MSMR was first published four years ago, there have been significant advances in military medical surveillance. For example, Department of Defense and Joint Staff policies have institutionalized medical surveillance support of joint operations; disease reporting requirements are standardized in the Services; ambulatory visit and mortality data are integrated with hospitalization and other data in the Defense Medical Surveillance System (DMSS); and the Defense Medical Epidemiologic Database (DMED) provides internet access to user-defined summaries (to the installation level) of hospitalization, ambulatory, and reportable events data.

In light of such progress in other areas, it seems appropriate to review the MSMR in relation to its goals and objectives. The MSMR's first objective is to *inform* medical professionals worldwide of events and experiences with military preventive medicine or public health significance. The goal is to extend the medical surveillance information horizons of MSMR readers beyond the limits of their current assignments. The second objective is to *educate* readers regarding unique and significant threats to the health, fitness, and operational effectiveness of soldiers. Case reports, outbreak investigations, and trend analyses provide real-world military contexts for discussions of epidemiology and pathophysiology, occupational and environmental hazards, diagnostic and therapeutic methods, and prevention policies and practices. The goal is to complement "non-military" medical education efforts. The MSMR's third objective is to

establish an *archive* of contemporary Army disease and injury experience. The goal is to ensure that an accessible historical record is available for future military medical uses (e.g., policymaking, lessons learned, military medical education).

In pursuit of these goals and objectives, the MSMR has regularly reported the number and characteristics of active duty soldiers—and frequencies, rates, and trends of hospitalizations, notifiable conditions, and HIV-1 infections among them. This issue contains the fifth annual summary of the prior calendar year's hospitalizations, hospital-associated lost duty days, and reportable events; and for the first time, this year's annual summary includes data on ambulatory visits. The MSMR has published more than 110 special reports which have dealt with infectious diseases (n=75), environmental threats (e.g., heat, cold, noise, carbon monoxide), injuries (e.g., stress fractures), musculoskeletal disorders (e.g., back pain), prevention practices (e.g., immunizations, water consumption guidelines), and disease reporting. Finally, back issues of the MSMR are accessible at the Army Medical Surveillance Activity website (amsa.army.mil), and new issues are posted as soon as final edits are completed. Consequently, new MSMRs may be available on-line up to several weeks before they can be received by mail. The editorial staff thus encourages as many readers as possible to read the MSMR on-line (enclosed is a survey that solicits reader preferences regarding receipt of the MSMR). As always, we seek and value the comments, criticisms, and suggestions of our readers.

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Inquiries regarding content or material to be considered for publication should be directed to the editor, Army Medical Surveillance Activity, Bldg. T-20, Rm 213, Wash DC, 20307-5100. E-mail: editor@amsa.army.mil

To be added to the mailing list, contact the Army Medical Surveillance Activity @ (202) 782-0471, DSN 662-0471. E-mail: msmr@amsa.army.mil

Surveillance Trends

Frequencies, rates, and trends of hospitalizations and associated lost duty time among active duty soldiers, 1998

General: During calendar year 1998, there were 24,061 hospitalizations of active duty soldiers in US military hospitals worldwide (table S1, page 14). The overall hospitalization rate was 50.3 per 1000 persons per year (person-yrs) which was nearly one-fourth lower than the rate in 1997 (table S2, page 15).

The overall hospitalization rate among females (137.0 per 1000 person-yrs) was nearly four times higher than the rate among males (35.2 per 1000 person-yrs). Among female soldiers, the highest hospitalization rates were in the 20 to 24 year age group for all causes but in the < 20 year group for non-pregnancy related conditions. Among male soldiers, the highest hospitalization rate was in the youngest age group (< 20 years) (table S2, page 15).

Hospitalization trends: Between 1990 and 1996, hospitalization rates slowly but steadily declined (average annual decline, 1990-1996: -5.7 hospitalizations per 1000 person-yrs; cumulative percent decline, 1990-1996: -23.7 %). Between 1996 and 1998, however, hospitalization rates declined much more rapidly (average annual decline, 1996-1998: -29.8 hospitalizations per 1000 person-yrs; cumulative percent decline, 1996-1998: -54.2 %) (figure 1).

Hospitalization-related lost duty days: During 1998, there were 124,309 days (340.3 years) of lost duty due to hospitalizations and associated convalescence (table S3, page 16). On average, each hospitalization accounted for 5.17 lost duty days in 1998, with 26 lost duty days for every 100 soldiers (table S4, page 17). In contrast to hospi-

Continued on page 9

Figure 1. Hospitalization rates, active duty soldiers, 1990-1998

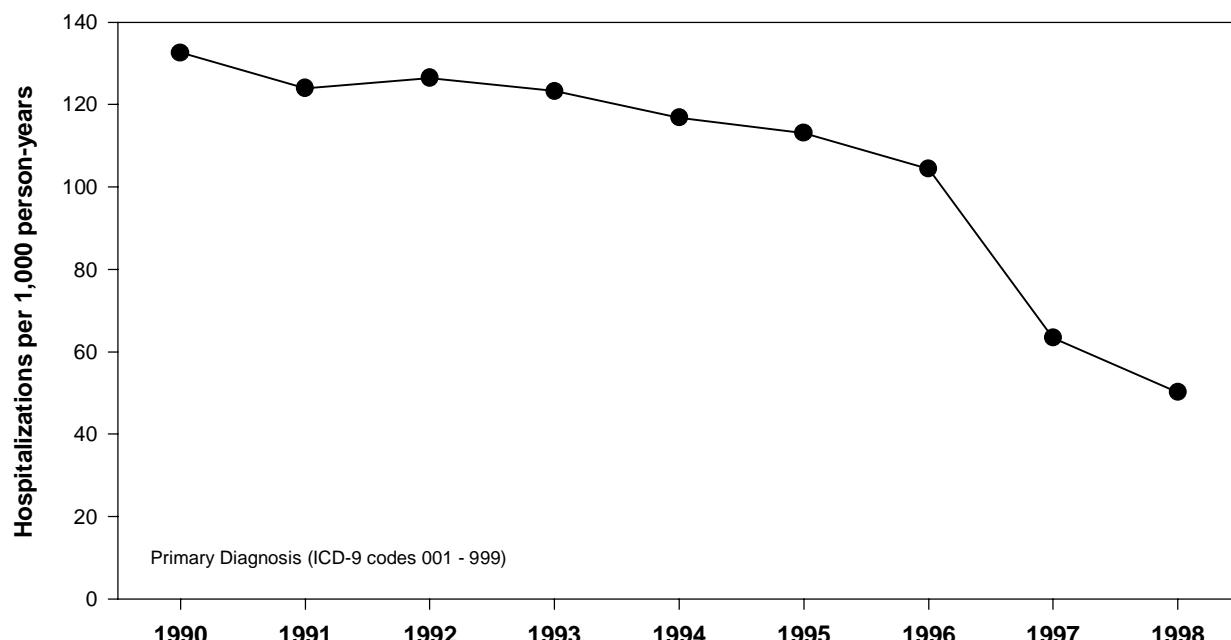


TABLE I. Selected sentinel reportable events, US Army medical treatment facilities*
March, 1999

Reporting MTF/Post**	Total number of reports submitted March, 1999	Environmental Injuries		Viral Hepatitis		Salmonellosis		Shigella		Varicella	
		Active Duty		Viral Hepatitis		Active Duty	Other	Shigella		Varicella	
		Heat	Cold	A	B			Active Duty	Other	Active Duty	Other
		Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1999
NORTH ATLANTIC RMC											
Walter Reed AMC	13	0	0	1	0	0	0	0	0	2	0
Aberdeen Prov. Ground, MD	2	0	0	0	0	0	0	0	0	1	0
FT Belvoir, VA	16	0	0	0	0	0	1	0	0	0	0
FT Bragg, NC	138	1	8	0	0	1	4	0	0	1	0
FT Drum, NY	23	0	15	0	0	0	0	0	0	3	1
FT Eustis, VA	26	0	1	0	0	0	0	0	0	1	0
FT Knox, KY	40	0	1	0	0	0	1	0	0	1	0
FT Lee, VA	17	0	0	0	0	0	0	0	0	0	0
FT Meade, MD	6	0	0	0	0	0	0	0	0	1	0
West Point, NY	6	0	0	0	0	0	0	0	0	0	1
GREAT PLAINS RMC											
Brooke AMC	57	0	0	0	3	0	2	0	4	1	1
Beaumont AMC	0	0	0	0	0	0	0	0	0	0	0
FT Carson, CO	55	0	0	0	0	0	0	0	0	0	0
FT Hood, TX	8	0	0	0	1	1	0	0	0	1	0
FT Huachuca, AZ	0	0	0	0	0	0	0	0	0	0	0
FT Leavenworth, KS	0	0	0	0	0	0	0	0	0	0	0
FT Leonard Wood, MO	9	0	3	0	1	0	0	0	0	3	4
FT Polk, LA	26	0	0	0	0	0	0	0	0	0	0
FT Riley, KS	35	0	1	0	0	0	0	0	0	0	0
FT Sill, OK	21	1	0	0	4	0	0	0	0	6	0
SOUTHEAST RMC											
Eisenhower AMC	11	0	0	0	0	0	0	0	0	0	0
FT Benning, GA	27	9	0	1	0	0	0	1	0	0	0
FT Campbell, KY	52	0	2	0	0	0	4	2	2	0	1
FT Jackson, SC	14	0	0	0	0	0	0	0	0	1	0
FT McClellan, AL	0	0	0	0	0	0	0	0	0	0	0
FT Rucker, AL	8	0	0	0	0	0	0	0	0	0	0
FT Stewart, GA	32	0	0	0	0	0	1	0	0	4	0
WESTERN RMC											
Madigan AMC	41	0	0	0	0	0	4	0	0	0	0
FT Irwin, CA	2	0	0	0	2	0	0	0	0	0	0
FT Wainwright, AK	17	0	41	0	1	0	0	0	0	1	0
OTHER LOCATIONS											
Tripler	63	0	0	0	0	1	0	0	1	0	0
Europe	6	0	1	0	3	0	1	0	0	8	0
Korea	1	0	7	0	1	0	0	0	0	0	0
Total	772	11	80	2	16	3	18	3	7	35	8

* Based on date of onset.

** Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Apr-99

FIGURE I. Selected sentinel reportable events, US Army medical treatment facilities*
Cases per month, Apr 97 - Mar 99

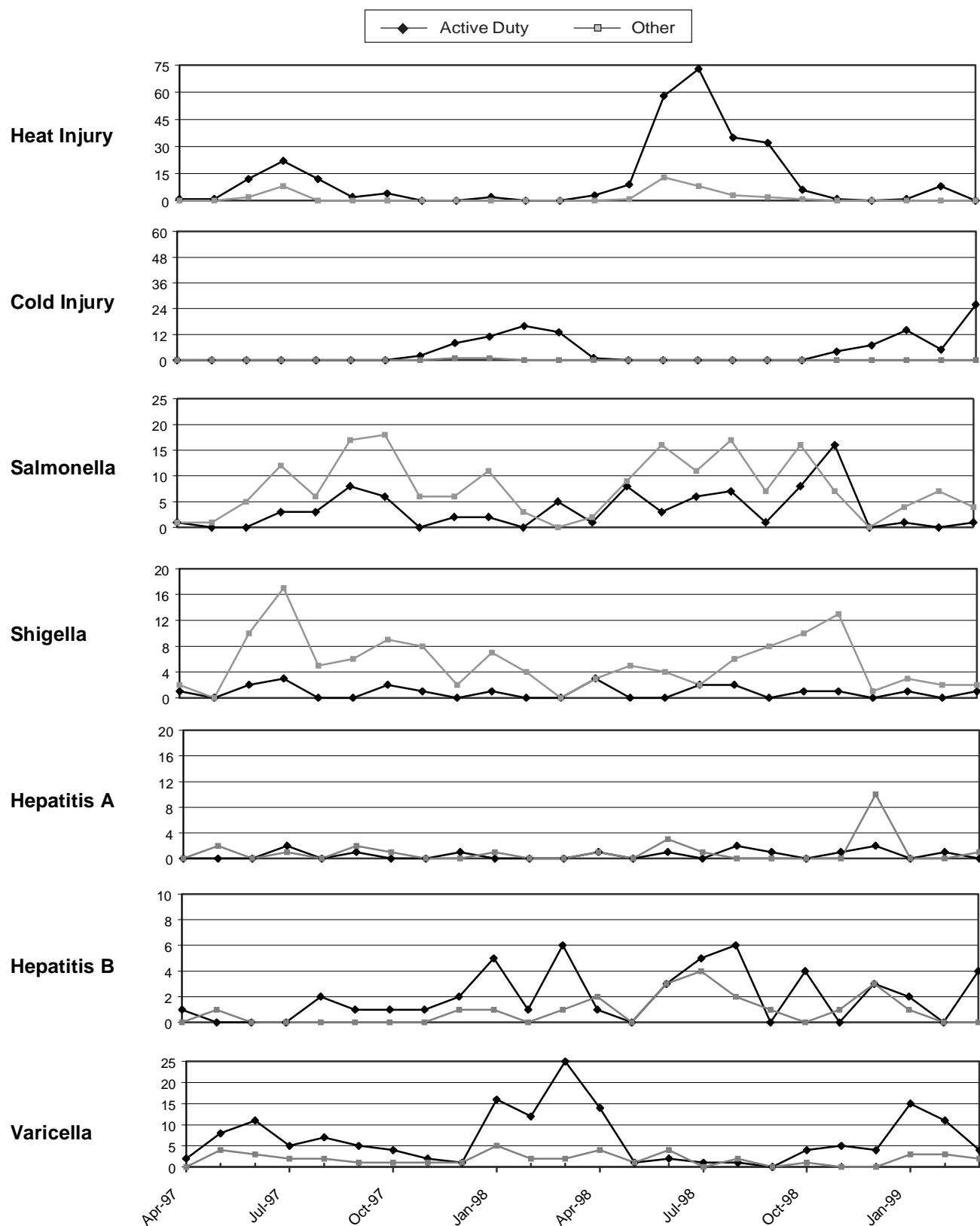


TABLE II. Reportable sexually transmitted diseases, US Army medical treatment facilities*
March, 1999

Reporting MTF/Post**	Chlamydia		Urethritis non-spec.		Gonorrhea		Syphilis Prim/Sec		Syphilis Latent		Syphilis Tertiary		Syphilis Congenital	
	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999	Cur. Month	Cum. 1999
NORTH ATLANTIC RMC														
Walter Reed AMC	6	25	0	1	2	5	0	0	0	0	0	1	0	0
Aberdeen Prov. Ground, MD	2	3	0	2	0	5	0	0	0	0	0	0	0	0
FT Belvoir, VA	9	28	0	0	5	14	0	0	0	0	0	0	0	0
FT Bragg, NC	64	160	30	30	20	66	0	0	0	0	0	0	0	0
FT Drum, NY	7	28	0	0	7	19	0	0	0	0	0	0	0	0
FT Eustis, VA	17	46	0	0	7	16	0	0	0	0	0	0	0	0
FT Knox, KY	24	42	0	0	11	24	0	0	0	0	0	0	0	0
FT Lee, VA	15	38	0	0	2	12	0	1	0	0	0	0	0	0
FT Meade, MD	5	25	0	0	0	1	0	0	0	0	0	0	0	0
West Point, NY	5	8	0	0	1	1	0	0	0	0	0	0	0	0
GREAT PLAINS RMC														
Brooke AMC	19	44	0	1	1	18	0	0	0	0	0	0	0	0
Beaumont AMC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FT Carson, CO	41	105	7	19	6	13	0	0	0	0	0	0	0	0
FT Hood, TX	6	121	0	34	0	48	0	2	0	0	0	0	0	0
FT Huachuca, AZ	0	3	0	0	0	1	0	0	0	0	0	0	0	0
FT Leavenworth, KS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FT Leonard Wood, MO	4	20	1	2	1	8	0	1	0	3	0	0	0	0
FT Polk, LA	23	48	0	0	1	7	2	2	0	0	0	0	0	0
FT Riley, KS	27	62	0	0	8	20	0	0	0	0	0	0	0	0
FT Sill, OK	12	49	2	12	3	24	0	0	0	0	0	0	0	0
SOUTHEAST RMC														
Eisenhower AMC	10	54	0	0	0	2	0	0	0	0	0	1	0	0
FT Benning, GA	11	31	0	0	7	33	0	1	0	0	0	0	0	0
FT Campbell, KY	26	73	0	0	17	37	0	0	0	0	0	0	0	0
FT Jackson, SC	9	88	0	0	5	16	0	1	0	0	0	0	0	0
FT McClellan, AL	0	1	0	0	0	0	0	0	0	0	0	0	0	0
FT Rucker, AL	6	10	0	0	2	3	0	0	0	0	0	0	0	0
FT Stewart, GA	11	43	12	43	9	28	0	0	0	0	0	0	0	0
WESTERN RMC														
Madigan AMC	23	104	6	24	11	23	0	0	0	0	0	0	0	0
FT Irwin, CA	2	3	0	0	0	0	0	0	0	0	0	0	0	0
FT Wainwright, AK	6	20	0	0	0	3	0	0	0	0	0	0	0	0
OTHER LOCATIONS														
Tripler	36	83	0	0	3	27	0	0	0	0	0	0	0	0
Europe	4	104	0	0	0	37	0	0	0	0	0	0	0	0
Korea	0	45	0	0	1	1	0	0	0	0	0	0	0	0
Total	430	1514	58	168	130	512	2	8	0	3	0	2	0	0

* Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Apr-99

FIGURE II. Reportable sexually transmitted diseases, US Army medical treatment facilities*
Cases per month, Apr 97 - Mar 99

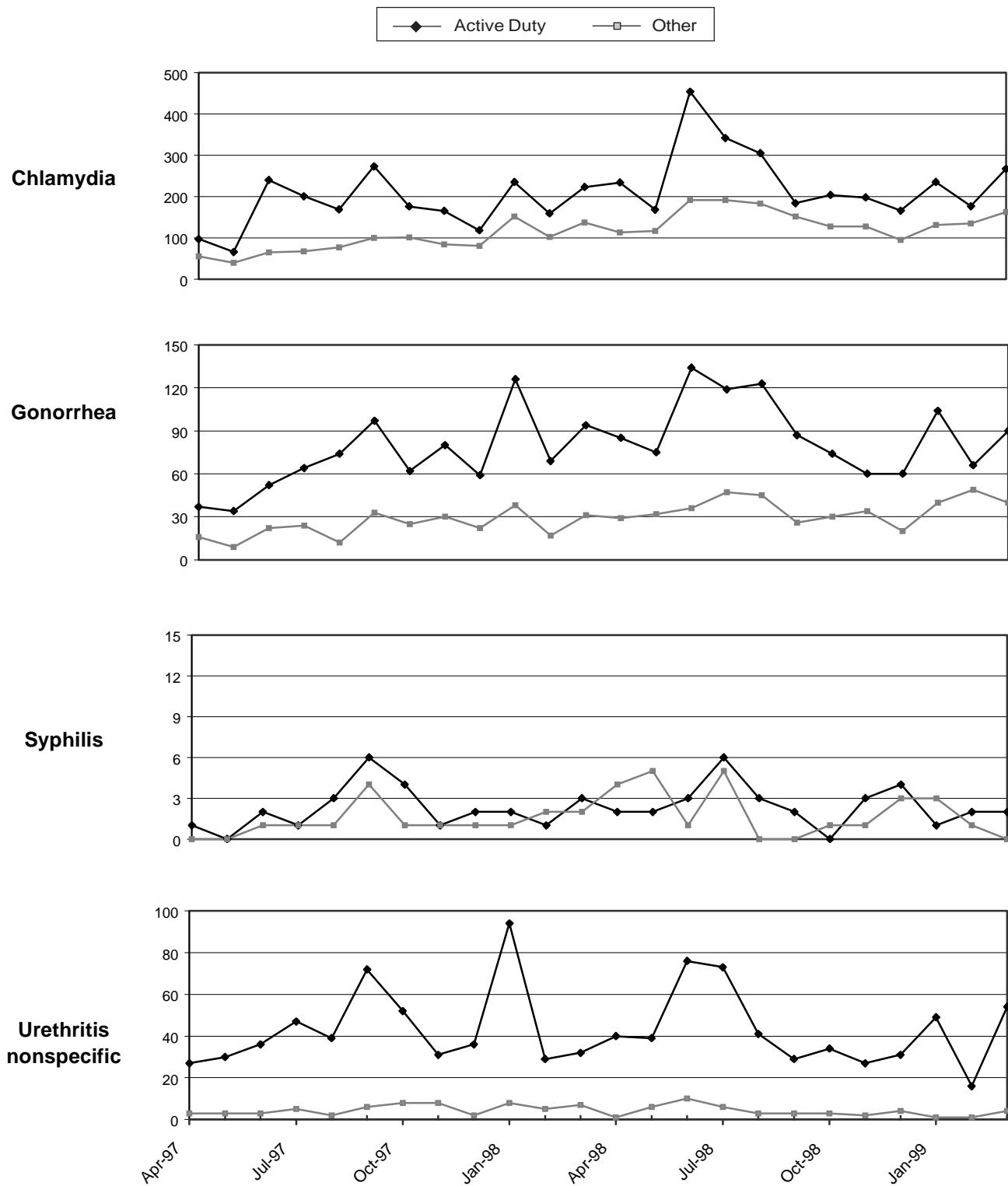


Figure 2. Hospitalization-related lost duty rates, active duty soldiers, 1990-1998

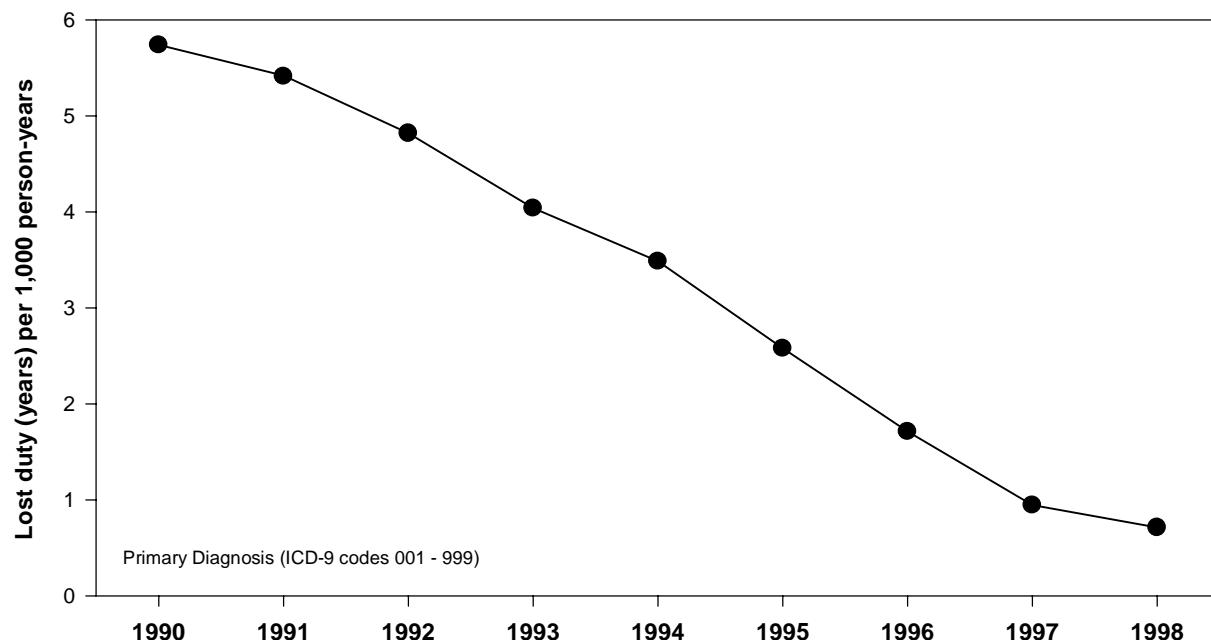
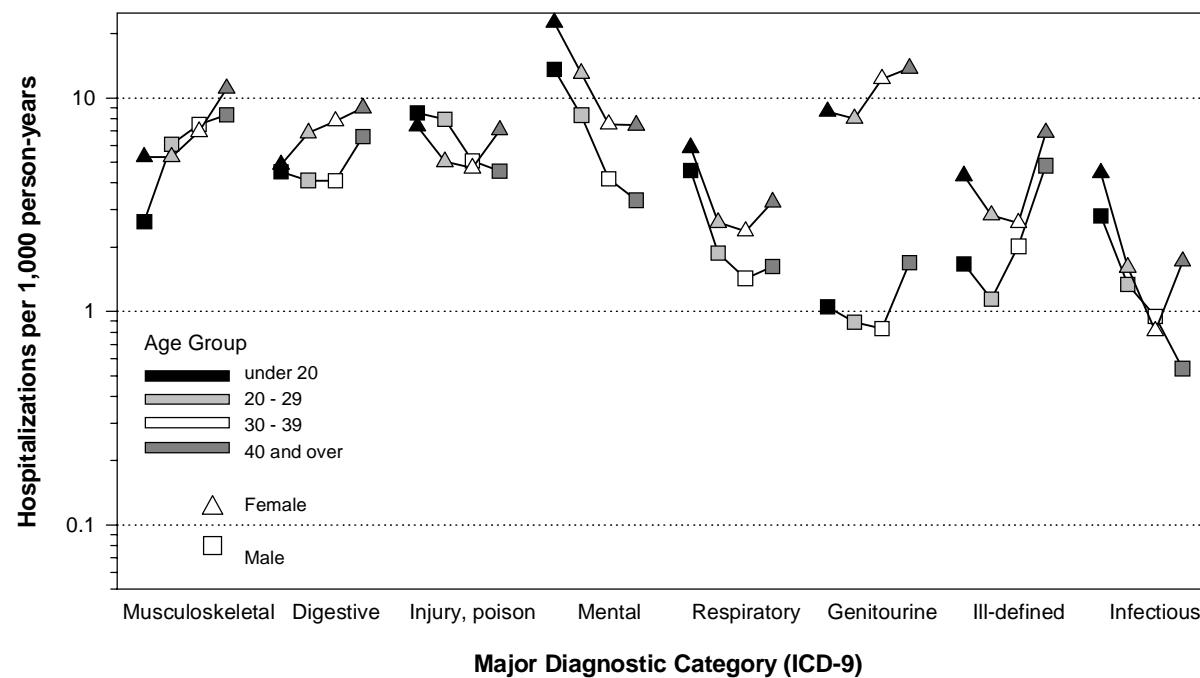


Figure 3. Hospitalizations by major diagnostic group, gender, and age group, active duty soldiers, 1998



Continued from page 3

talization rates (which declined precipitously after 1996), hospitalization-related lost duty rates declined at a steady rate from 1990 through 1998 (figure 2). Hospitalization-related lost duty rates were approximately three times higher among females than males. Among males, the highest lost duty rates were among the youngest soldiers while among females, the highest lost duty rates were among the 20-24 year old soldiers (table S4, page 17).

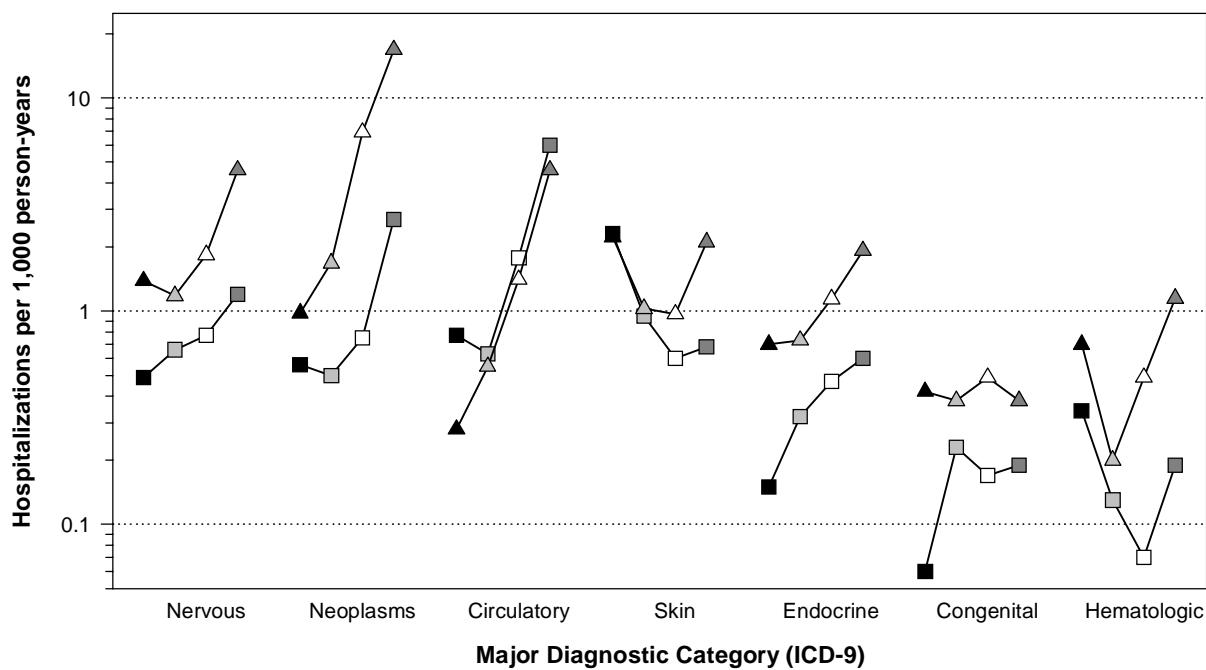
Hospitalizations, by diagnostic categories: In 1998, there were more hospitalizations (n=5,597) related to "complications of pregnancy, childbirth, and the puerperium" than any other diagnostic category (International Classification of Diseases, 9th revision, Clinical Modifications [ICD-9-CM]). Nearly one-fourth of all hospitalizations and 57.7% of hospitalizations of females were pregnancy/childbirth-related. Mental disorders (n=3,734, 15.5% of total) were the second leading category of hospitalizations in 1998. In every diagnostic

category, except congenital disorders, and for both genders, the highest hospitalization rates were either in the youngest (< 20) or oldest (> 40) agegroups (figure 3). Together, injuries and poisonings (n=3,162) and musculoskeletal/connective tissue conditions (n=3,061) accounted for approximately one-fourth of all hospitalizations (table S1, page 14). Finally, between 1996 and 1998, hospitalization rates declined by more than 25% in all diagnostic categories except those related to pregnancy/childbirth and mental disorders (figure 4, page 12).

Lost duty days, by diagnostic categories: Hospitalizations for mental disorders accounted for 37,692 lost duty days, nearly one-third of the total (table S3, page 16). Among male soldiers, mental disorders accounted for more than one-third of all hospitalization-related lost duty days while among females, pregnancy/childbirth-related hospitalizations accounted for than half of all lost days (table S3, page 16). Finally, the average number of lost

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Figure 3 (continued). Hospitalizations by major diagnostic group, gender, and age group, active duty soldiers, 1998



Top five hospitalizations, by major diagnostic category and gender, active duty soldiers, 1998

Males		
Infectious and parasitic diseases (ICD9 001 - 139)		n %
052 Chickenpox	90	17.4
047 Meningitis due to enterovirus	85	16.4
079 Viral and chlamydial infection in unspecified site	83	16.1
008 Intestinal infections due to other organisms	54	10.4
034 Streptococcal sore throat and scarlet fever	33	6.4
SUBTOTAL	517	100
Neoplasms (ICD9 140 - 239)		n %
213 Benign neoplasm of bone and articular cartilage	23	7.2
186 Malignant neoplasm of testis	22	6.9
185 Malignant neoplasm of prostate	21	6.6
201 Hodgkin's disease	16	5.0
228 Hemangioma and lymphangioma, any site	15	4.7
SUBTOTAL	318	100
Endocrine, nutrition, immunity (ICD9 240 - 279)		n %
250 Diabetes mellitus	53	34.4
276 Disorders of fluid, electrolyte, acid-base balance	39	25.3
242 Thyrotoxicosis with or without goiter	21	13.6
241 Nontoxic nodular goiter	7	4.5
251 Other disorders of pancreatic internal secretion	4	2.6
SUBTOTAL	154	100
Hematologic disorders (ICD9 280 - 289)		n %
289 Other diseases of blood and blood-forming organs	20	36.4
287 Purpura and other hemorrhagic conditions	13	23.6
288 Diseases of white blood cells	6	10.9
282 Hereditary hemolytic anemias	5	9.1
286 Coagulation defects	3	5.5
SUBTOTAL	55	100
Mental disorders (ICD9 290 - 319)		n %
309 Adjustment reaction	1150	40.0
303 Alcohol dependence syndrome	491	17.1
296 Affective psychoses	387	13.5
300 Neurotic disorders	158	5.5
311 Depressive disorder, not elsewhere classified	142	4.9
SUBTOTAL	2874	100
Nervous system (ICD9 320 - 389)		n %
354 Mononeuritis of upper limb, mononeuritis multiplex	36	12.1
346 Migraine	28	9.4
345 Epilepsy	16	5.4
355 Mononeuritis of lower limb	13	4.4
361 Retinal detachments and defects	13	4.4
SUBTOTAL	297	100
Circulatory system (ICD9 390 - 459)		n %
427 Cardiac dysrhythmias	120	20.0
414 Other forms of chronic ischemic heart disease	73	12.2
455 Hemorrhoids	54	9.0
410 Acute myocardial infarction	46	7.7
453 Other venous embolism and thrombosis	45	7.5
SUBTOTAL	600	100
Respiratory system (ICD9 460 - 519)		n %
486 Pneumonia, organism unspecified	164	20.8
493 Asthma	75	9.5
462 Acute pharyngitis	68	8.6
475 Peritonsillar abscess	68	8.6
465 Acute upper respiratory infections of multiple sites	53	6.7
SUBTOTAL	789	100

Females		
Infectious and parasitic diseases (ICD9 001 - 139)		n %
047 Meningitis due to enterovirus	24	20.0
079 Viral and chlamydial infection in unspecified site	19	15.8
008 Intestinal infections due to other organisms	15	12.5
052 Chickenpox	15	12.5
034 Streptococcal sore throat and scarlet fever	12	10.0
SUBTOTAL	120	100
Neoplasms (ICD9 140 - 239)		n %
218 Uterine leiomyoma	174	60.0
220 Benign neoplasm of ovary	21	7.2
174 Malignant neoplasm of female breast	12	4.1
233 Carcinoma in situ of breast, genitourinary system	9	3.1
213 Benign neoplasm of bone and articular cartilage	7	2.4
SUBTOTAL	290	100
Endocrine, nutrition, immunity (ICD9 240 - 279)		n %
276 Disorders of fluid, electrolyte, acid-base balance	16	24.6
241 Nontoxic nodular goiter	12	18.5
242 Thyrotoxicosis with or without goiter	8	12.3
278 Obesity and other hyperalimentation	8	12.3
250 Diabetes mellitus	6	9.2
SUBTOTAL	65	100
Hematologic disorders (ICD9 280 - 289)		n %
280 Iron deficiency anemias	7	25.0
289 Other diseases of blood and blood-forming organs	5	17.9
285 Other and unspecified anemias	4	14.3
287 Purpura and other hemorrhagic conditions	4	14.3
288 Diseases of white blood cells	3	10.7
SUBTOTAL	28	100
Mental disorders (ICD9 290 - 319)		n %
309 Adjustment reaction	366	42.6
296 Affective psychoses	195	22.7
300 Neurotic disorders	62	7.2
303 Alcohol dependence syndrome	61	7.1
311 Depressive disorder, not elsewhere classified	52	6.0
SUBTOTAL	860	100
Nervous system (ICD9 320 - 389)		n %
346 Migraine	39	33.9
354 Mononeuritis of upper limb, mononeuritis multiplex	8	7.0
374 Other disorders of eyelids	7	6.1
322 Meningitis of unspecified cause	6	5.2
355 Mononeuritis of lower limb	6	5.2
SUBTOTAL	115	100
Circulatory system (ICD9 390 - 459)		n %
455 Hemorrhoids	13	17.6
427 Cardiac dysrhythmias	11	14.9
453 Other venous embolism and thrombosis	7	9.5
414 Other forms of chronic ischemic heart disease	5	6.8
410 Acute myocardial infarction	3	4.1
SUBTOTAL	74	100
Respiratory system (ICD9 460 - 519)		n %
493 Asthma	35	16.9
474 Chronic disease of tonsils and adenoids	31	15.0
486 Pneumonia, organism unspecified	29	14.0
462 Acute pharyngitis	27	13.0
465 Acute upper respiratory infections of multiple sites	14	6.8
SUBTOTAL	207	100

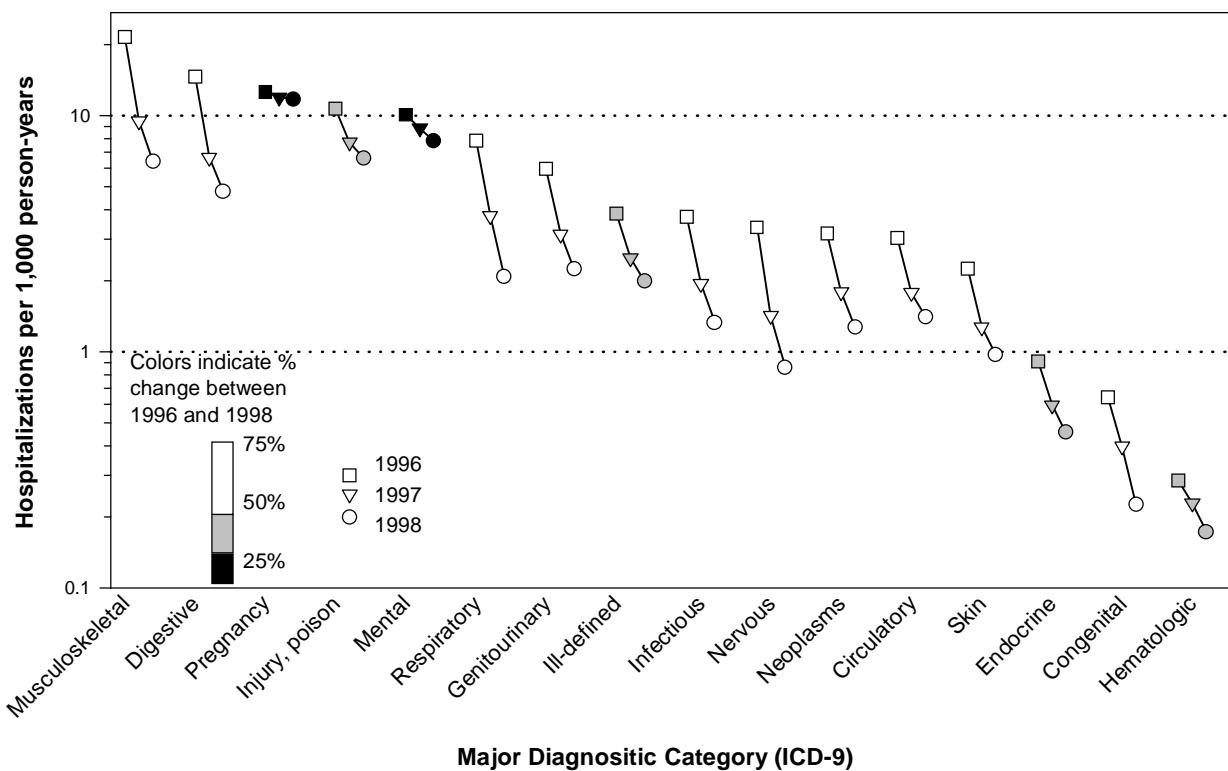
Note: Percentages are relative to diagnostic category and gender-specific subtotals

Top five hospitalizations, by major diagnostic category and gender, active duty soldiers, 1998 (continued)

Males		
		n %
Digestive system (ICD9 520 - 579)		
540 Acute appendicitis	314	17.7
524 Dentofacial anomalies, including malocclusion	221	12.4
550 Inguinal hernia	182	10.2
530 Diseases of esophagus	177	9.9
558 Other noninfectious gastroenteritis and colitis	173	9.7
SUBTOTAL	1779	100
Genitourinary system (ICD9 580 - 629)		
592 Calculus of kidney and ureter	116	29.7
608 Other disorders of male genital organs	41	10.5
598 Urethral stricture	40	10.2
611 Other disorders of breast	26	6.6
593 Other disorders of kidney and ureter	24	6.1
SUBTOTAL	391	100
Pregnancy complications (ICD9 630 - 679)		
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
SUBTOTAL	-	-
Skin diseases (ICD9 680 - 709)		
682 Other cellulitis and abscess	247	65.2
685 Pilonidal cyst	44	11.6
681 Cellulitis and abscess of finger and toe	22	5.8
692 Contact dermatitis and other eczema	18	4.7
701 Other hypertrophic and atrophic conditions of skin	9	2.4
SUBTOTAL	379	100
Musculoskeletal system (ICD9 710 - 739)		
717 Internal derangement of knee	664	25.3
718 Other derangement of joint	415	15.8
722 Intervertebral disc disorders	408	15.5
733 Other disorders of bone and cartilage	187	7.1
726 Peripheral enthesopathies and allied syndromes	157	6.0
SUBTOTAL	2625	100
Congenital anomalies (ICD9 740 - 759)		
756 Other congenital musculoskeletal anomalies	17	21.5
749 Cleft palate and cleft lip	7	8.9
753 Congenital anomalies of urinary system	7	8.9
754 Certain congenital musculoskeletal deformities	7	8.9
759 Other and unspecified congenital anomalies	7	8.9
SUBTOTAL	79	100
III-defined conditions (ICD9 780 - 799)		
786 Symptoms involving respiratory system and chest	253	34.9
780 General symptoms (incl syncope, fever unk origin)	221	30.5
789 Other symptoms involving abdomen and pelvis	113	15.6
784 Symptoms involving head and neck (incl	34	4.7
785 Symptoms involving cardiovascular system	27	3.7
SUBTOTAL	725	100
Injury and poisoning (ICD9 800 - 999)		
824 Fracture of ankle	216	7.8
998 Other complications of procedures, NEC	212	7.6
844 Sprains and strains of knee and leg	163	5.9
802 Fracture of face bones	153	5.5
992 Effects of heat and light	143	5.1
SUBTOTAL	2784	100

Females		
		n %
Digestive system (ICD9 520 - 579)		
524 Dentofacial anomalies, including malocclusion	131	26.2
574 Cholelithiasis	58	11.6
540 Acute appendicitis	37	7.4
558 Other noninfectious gastroenteritis and colitis	32	6.4
530 Diseases of esophagus	20	4.0
SUBTOTAL	500	100
Genitourinary system (ICD9 580 - 629)		
625 Symptoms associated with female genital organs	106	15.5
590 Infections of kidney	91	13.3
614 Inflammatory disease of reproductive organs	88	12.9
620 Noninflammatory disorders of reproductive organs	88	12.9
611 Other disorders of breast	81	11.9
SUBTOTAL	682	100
Pregnancy complications (ICD9 630 - 679)		
664 Trauma to perineum and vulva during delivery	1126	20.1
656 Other fetal and placental problems	532	9.5
661 Abnormality of forces of labor	410	7.3
644 Early or threatened labor	387	6.9
650 Normal delivery	354	6.3
SUBTOTAL	5597	100
Skin diseases (ICD9 680 - 709)		
682 Other cellulitis and abscess	32	37.2
701 Other hypertrophic and atrophic conditions of skin	16	18.6
685 Pilonidal cyst	10	11.6
709 Other disorders of skin and subcutaneous tissue	8	9.3
692 Contact dermatitis and other eczema	4	4.7
SUBTOTAL	86	100
Musculoskeletal system (ICD9 710 - 739)		
717 Internal derangement of knee	97	22.2
718 Other derangement of joint	52	11.9
722 Intervertebral disc disorders	47	10.8
733 Other disorders of bone and cartilage	42	9.6
735 Acquired deformities of toe	32	7.3
SUBTOTAL	436	100
Congenital anomalies (ICD9 740 - 759)		
755 Other congenital anomalies of limbs	5	17.2
752 Congenital anomalies of genital organs	4	13.8
753 Congenital anomalies of urinary system	4	13.8
756 Other congenital musculoskeletal anomalies	3	10.3
749 Cleft palate and cleft lip	2	6.9
SUBTOTAL	29	100
III-defined conditions (ICD9 780 - 799)		
789 Other symptoms involving abdomen and pelvis	89	39.0
780 General symptoms (incl syncope, fever unk origin)	50	21.9
786 Symptoms involving respiratory system and chest	39	17.1
787 Symptoms involving digestive system	15	6.6
784 Symptoms involving head and neck (incl	13	5.7
SUBTOTAL	228	100
Injury and poisoning (ICD9 800 - 999)		
998 Other complications of procedures, NEC	54	14.3
965 Poisoning: analgesics, antipyretics, antirheumatics	33	8.7
824 Fracture of ankle	29	7.7
996 Complications to certain specified procedures	20	5.3
823 Fracture of tibia and fibula	16	4.2
SUBTOTAL	378	100

Figure 4. Hospitalization trends, by major diagnostic category, active duty soldiers, 1996-1998



Continued from page 9

duty days from each mental disorder hospitalization (mean per hospitalization: 10.1 lost days) far exceeded the average loss for other hospitalizations (figure 5).

Most frequent diagnoses, by major category: The table on pages 10 and 11 list by gender the five most frequent hospital discharge diagnoses (first 3 digits of ICD-9-CM code) in each major category. Among female soldiers, the most frequent diagnoses by far were related to childbirth. Of hospitalizations unrelated to pregnancy/childbirth, the most frequent diagnosis among both males and females was "adjustment reaction" (ICD-9-CM:

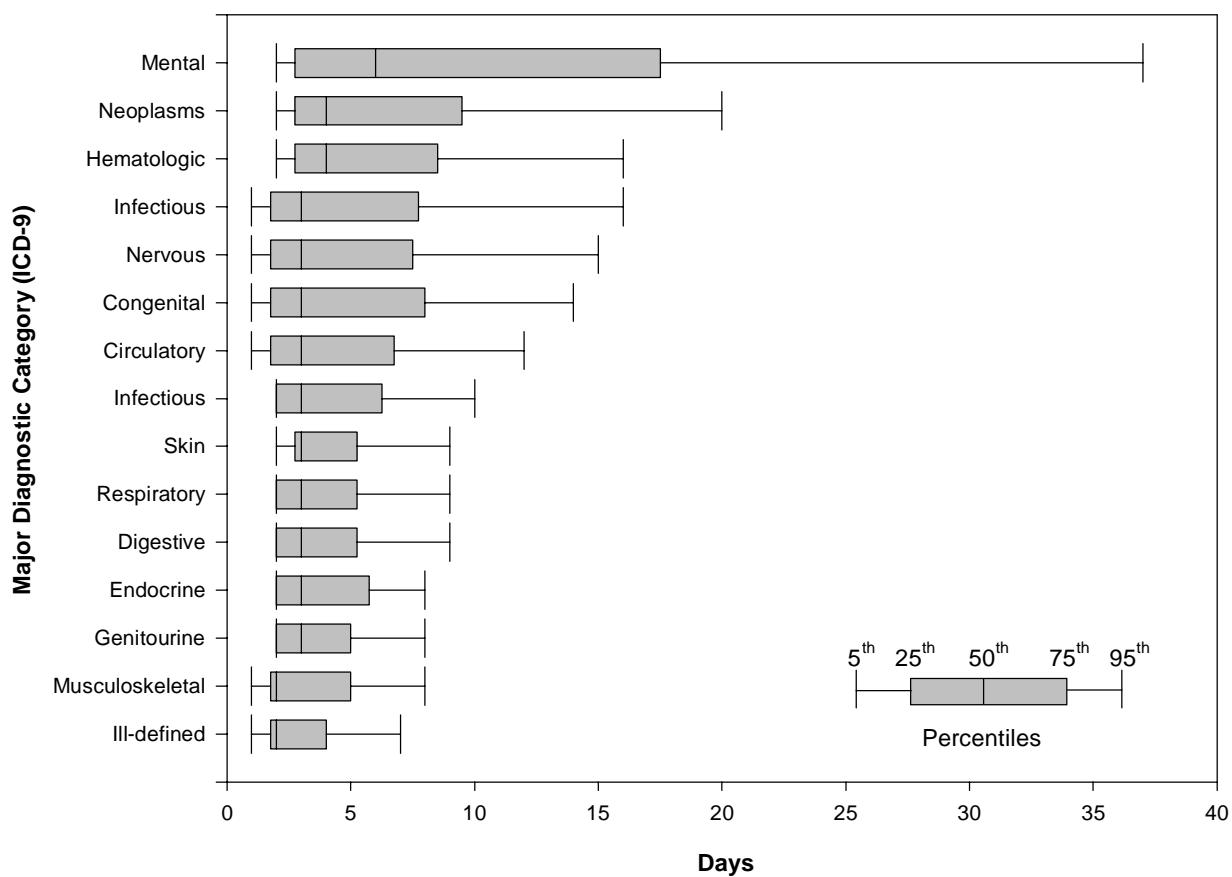
309; male hospitalizations: 1,150, female hospitalizations: 366). Among males, the next most frequent diagnoses were "internal derangement of the knee" (ICD-9-CM: 717; male hospitalizations: 664) and "alcohol dependence syndrome" (ICD-9-CM: 303; male hospitalizations: 491). Among females, the next most frequent diagnoses were "affective psychoses" (ICD-9-CM: 296; female hospitalizations: 195) and "uterine leiomyoma" (ICD-9-CM: 717; female hospitalizations: 218).

Editorial comment: The hospitalization experience of the Army in 1998 reflects the continuing effects

of managed care and hospital utilization management initiatives. In 1998, hospitalizations and associated lost duty days were lower than in 1997, continuing long-term downward trends. Of note, hospitalizations and lost duty days declined in all major diagnostic categories except pregnancy/childbirth-related conditions and mental disorders. Not surprisingly, the most frequent diagnoses among

female soldiers were related to childbirth. Otherwise, frequent diagnoses among both males and females included "adjustment reaction," "affective psychoses," "alcohol dependence syndrome," and "internal derangement of the knee" (e.g., torn ligaments). Detailed studies of these relatively common conditions may lead to primary, secondary, and/or tertiary preventive interventions.

Figure 5. Lost duty days per hospitalization, by major diagnostic category, active duty soldiers, 1998



Supplement #1 (Hospitalization Summary, 1998)**TABLE S1. Active Duty Hospitalizations, United States Army, 1998**

ICD-9 Category	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
Infectious and Parasitic Diseases	91	180	110	73	43	20	517	32	41	23	11	4	9	120	637
Neoplasms	18	58	51	50	42	99	318	7	31	36	48	80	88	290	608
Endocrine, Nutritional, and Metabolic Disease and Immunity Disorders	5	40	30	32	25	22	154	5	9	20	11	10	10	65	219
Diseases of the Blood and Blood-Forming Organs	11	16	13	3	5	7	55	5	5	3	7	2	6	28	83
Mental Disorders	441	1150	648	315	198	122	2874	162	311	209	77	62	39	860	3734
Diseases of the Nervous System and Sense Organs	16	73	70	47	47	44	297	10	27	20	18	16	24	115	412
Diseases of the Circulatory System	25	60	76	102	116	221	600	2	14	8	13	13	24	74	674
Diseases of the Respiratory System	148	260	146	104	71	60	789	42	64	40	27	17	17	207	996
Diseases of the Digestive System	146	500	388	275	227	243	1779	35	139	135	77	67	47	500	2279
Diseases of the Genitourinary System	34	109	84	56	46	62	391	62	170	150	119	109	72	682	1073
Complications of Pregnancy, Childbirth, and the Puerperium*	-	-	-	-	-	-	-	357	2742	1490	743	227	38	5597	5597
Diseases of the Skin and Subcutaneous Tissue	75	139	67	46	27	25	379	16	28	13	10	8	11	86	465
Diseases of the Musculoskeletal System and Connective Tissue	85	695	617	499	422	307	2625	38	96	115	82	47	58	436	3061
Congenital Abnormalities	2	23	26	12	9	7	79	3	8	7	4	5	2	29	108
Symptoms, Signs, and ill-Defined Conditions	54	156	90	120	128	177	725	31	74	39	26	22	36	228	953
Injury and Poisoning	276	1055	665	378	243	167	2784	53	120	81	57	30	37	378	3162
All Hospitalizations	1427	4514	3081	2112	1649	1583	14366	860	3879	2389	1330	719	518	9695	24061

* Includes normal delivery

TABLE S2. Active Duty Hospitalization Rates, United States Army, 1998*

ICD-9 Category	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
Infectious and Parasitic Diseases	2.8	1.5	1.2	1.0	0.8	0.5	1.3	4.5	1.8	1.4	1.0	0.5	1.7	1.7	1.3
Neoplasms	0.6	0.5	0.5	0.7	0.8	2.7	0.8	1.0	1.4	2.1	4.5	10.2	16.9	4.1	1.3
Endocrine, Nutritional, and Metabolic Disease and Immunity Disorders	0.2	0.3	0.3	0.5	0.5	0.6	0.4	0.7	0.4	1.2	1.0	1.3	1.9	0.9	0.5
Diseases of the Blood and Blood-Forming Organs	0.3	0.1	0.1	0.0	0.1	0.2	0.1	0.7	0.2	0.2	0.7	0.3	1.1	0.4	0.2
Mental Disorders	13.6	9.5	6.8	4.5	3.8	3.3	7.0	22.6	13.6	12.3	7.2	7.9	7.5	12.2	7.8
Diseases of the Nervous System and Sense Organs	0.5	0.6	0.7	0.7	0.9	1.2	0.7	1.4	1.2	1.2	1.7	2.0	4.6	1.6	0.9
Diseases of the Circulatory System	0.8	0.5	0.8	1.5	2.2	6.0	1.5	0.3	0.6	0.5	1.2	1.7	4.6	1.0	1.4
Diseases of the Respiratory System	4.6	2.1	1.5	1.5	1.3	1.6	1.9	5.9	2.8	2.4	2.5	2.2	3.3	2.9	2.1
Diseases of the Digestive System	4.5	4.1	4.1	3.9	4.3	6.6	4.4	4.9	6.1	7.9	7.2	8.5	9.0	7.1	4.8
Diseases of the Genitourinary System	1.1	0.9	0.9	0.8	0.9	1.7	1.0	8.6	7.4	8.8	11.2	13.8	13.8	9.6	2.2
Complications of Pregnancy, Childbirth, and the Puerperium**	-	-	-	-	-	-	-	49.8	119.8	87.7	69.9	28.8	7.3	79.1	11.7
Diseases of the Skin and Subcutaneous Tissue	2.3	1.1	0.7	0.7	0.5	0.7	0.9	2.2	1.2	0.8	0.9	1.0	2.1	1.2	1.0
Diseases of the Musculoskeletal System and Connective Tissue	2.6	5.7	6.5	7.1	8.0	8.4	6.4	5.3	4.2	6.8	7.7	6.0	11.1	6.2	6.4
Congenital Abnormalities	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.4	0.3	0.4	0.4	0.6	0.4	0.4	0.2
Symptoms, Signs, and ill-Defined Conditions	1.7	1.3	0.9	1.7	2.4	4.8	1.8	4.3	3.2	2.3	2.4	2.8	6.9	3.2	2.0
Injury and Poisoning	8.5	8.7	7.0	5.4	4.6	4.5	6.8	7.4	5.2	4.8	5.4	3.8	7.1	5.3	6.6
All Hospitalizations	44.1	37.2	32.5	30.2	31.3	43.1	35.2	119.9	169.5	140.6	125.2	91.3	99.2	137.0	50.3

* Rates are calculated per 1000 soldiers per year based on cumulative person time.

** Includes normal delivery

Source: Standard Inpatient Data Record (SIDR), Corporate Executive Information Systems (CEIS) Program Office

TABLE S3. Hospitalization-related Lost Duty Days, Active Duty, United States Army, 1998*

ICD-9 Category	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
Infectious and Parasitic Diseases	417	814	572	335	245	94	2477	130	150	87	44	17	73	501	2978
Neoplasms	205	514	459	338	290	694	2500	22	186	141	194	424	401	1368	3868
Endocrine, Nutritional, and Metabolic Disease and Immunity Disorders	11	134	116	113	128	75	577	62	36	70	38	36	37	279	856
Diseases of the Blood and Blood-Forming Organs	74	207	53	11	25	39	409	24	20	8	28	7	28	115	524
Mental Disorders	4343	11119	7191	3248	1933	1529	29363	1394	3072	2212	629	554	468	8329	37692
Diseases of the Nervous System and Sense Organs	71	475	354	330	218	200	1648	34	96	110	60	77	98	475	2123
Diseases of the Circulatory System	93	288	336	445	476	1062	2700	14	90	40	55	51	131	381	3081
Diseases of the Respiratory System	572	958	721	464	262	267	3244	142	203	158	105	60	59	727	3971
Diseases of the Digestive System	517	1796	1375	987	946	1001	6622	109	463	560	311	301	212	1956	8578
Diseases of the Genitourinary System	150	589	438	247	170	292	1886	236	608	504	428	385	247	2408	4294
Complications of Pregnancy, Childbirth, and the Puerperium**	-	-	-	-	-	-	-	1421	10676	5989	3062	984	274	22406	22406
Diseases of the Skin and Subcutaneous Tissue	385	613	254	162	96	115	1625	72	125	43	29	21	36	326	1951
Diseases of the Musculoskeletal System and Connective Tissue	520	2456	1968	1743	1405	1172	9264	290	344	420	314	189	191	1748	11012
Congenital Abnormalities	6	87	164	61	52	39	409	7	81	17	20	20	5	150	559
Symptoms, Signs, and ill-Defined Conditions	222	507	251	350	353	530	2213	109	254	129	90	59	188	829	3042
Injury and Poisoning	1750	5966	3134	2351	1045	912	15158	370	694	458	273	187	234	2216	17374
All Hospitalizations	9336	26523	17386	11185	7644	8021	80095	4436	17098	10946	5680	3372	2682	44214	124309

* Includes bed days and convalescent sickdays

** Includes normal delivery

Source: Standard Inpatient Data Record (SIDR), Corporate Executive Information Systems (CEIS) Program Office

TABLE S4. Hospitalization-related Lost Duty Rates, Active Duty, United States Army, 1998*

ICD-9 Category	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
Infectious and Parasitic Diseases	12.9	6.7	6.0	4.8	4.7	2.6	6.1	18.1	6.6	5.1	4.1	2.2	14.0	7.1	6.2
Neoplasms	6.3	4.2	4.8	4.8	5.5	18.9	6.1	3.1	8.1	8.3	18.3	53.9	76.8	19.3	8.1
Endocrine, Nutritional, and Metabolic Disease and Immunity Disorders	0.3	1.1	1.2	1.6	2.4	2.0	1.4	8.6	1.6	4.1	3.6	4.6	7.1	3.9	1.8
Diseases of the Blood and Blood-Forming Organs	2.3	1.7	0.6	0.2	0.5	1.1	1.0	3.3	0.9	0.5	2.6	0.9	5.4	1.6	1.1
Mental Disorders	134.2	91.7	75.9	46.4	36.7	41.6	72.0	194.4	134.2	130.2	59.2	70.4	89.7	117.7	78.8
Diseases of the Nervous System and Sense Organs	2.2	3.9	3.7	4.7	4.1	5.4	4.0	4.7	4.2	6.5	5.6	9.8	18.8	6.7	4.4
Diseases of the Circulatory System	2.9	2.4	3.5	6.4	9.0	28.9	6.6	2.0	3.9	2.4	5.2	6.5	25.1	5.4	6.4
Diseases of the Respiratory System	17.7	7.9	7.6	6.6	5.0	7.3	8.0	19.8	8.9	9.3	9.9	7.6	11.3	10.3	8.3
Diseases of the Digestive System	16.0	14.8	14.5	14.1	18.0	27.2	16.2	15.2	20.2	33.0	29.3	38.2	40.6	27.6	17.9
Diseases of the Genitourinary System	4.6	4.9	4.6	3.5	3.2	7.9	4.6	32.9	26.6	29.7	40.3	48.9	47.3	34.0	9.0
Complications of Pregnancy, Childbirth, and the Puerperium**	-	-	-	-	-	-	-	198.1	466.5	352.5	288.2	125.0	52.5	316.6	46.8
Diseases of the Skin and Subcutaneous Tissue	11.9	5.1	2.7	2.3	1.8	3.1	4.0	10.0	5.5	2.5	2.7	2.7	6.9	4.6	4.1
Diseases of the Musculoskeletal System and Connective Tissue	16.1	20.3	20.8	24.9	26.7	31.9	22.7	40.4	15.0	24.7	29.6	24.0	36.6	24.7	23.0
Congenital Abnormalities	0.2	0.7	1.7	0.9	1.0	1.1	1.0	1.0	3.5	1.0	1.9	2.5	1.0	2.1	1.2
Symptoms, Signs, and ill-Defined Conditions	6.9	4.2	2.6	5.0	6.7	14.4	5.4	15.2	11.1	7.6	8.5	7.5	36.0	11.7	6.4
Injury and Poisoning	54.1	49.2	33.1	33.6	19.9	24.8	37.2	51.6	30.3	27.0	25.7	23.8	44.8	31.3	36.3
All Hospitalizations	288	219	183	160	145	218	196	619	747	644	535	428	514	625	260

* Rates are calculated as bed days and convalescent sickdays per 1000 soldiers per year based on cumulative person time.

** Includes normal delivery

Source: Standard Inpatient Data Record (SIDR), Corporate Executive Information Systems (CEIS) Program Office

Surveillance trends

Frequencies and rates of ambulatory visits among active duty soldiers, 1998

General: In 1998, there were 4,031,284 outpatient visits of active duty soldiers that were reported through the Standard Ambulatory Data Record (SADR). The overall rate was 8,425.1 outpatient visits per 1,000 persons per year (person-yrs). The number of sites that reported ambulatory visits increased throughout 1997. As a result, temporal trends of ambulatory visit rates (figure 1 and figure 2, page 20) largely reflect the more complete reporting in 1998.

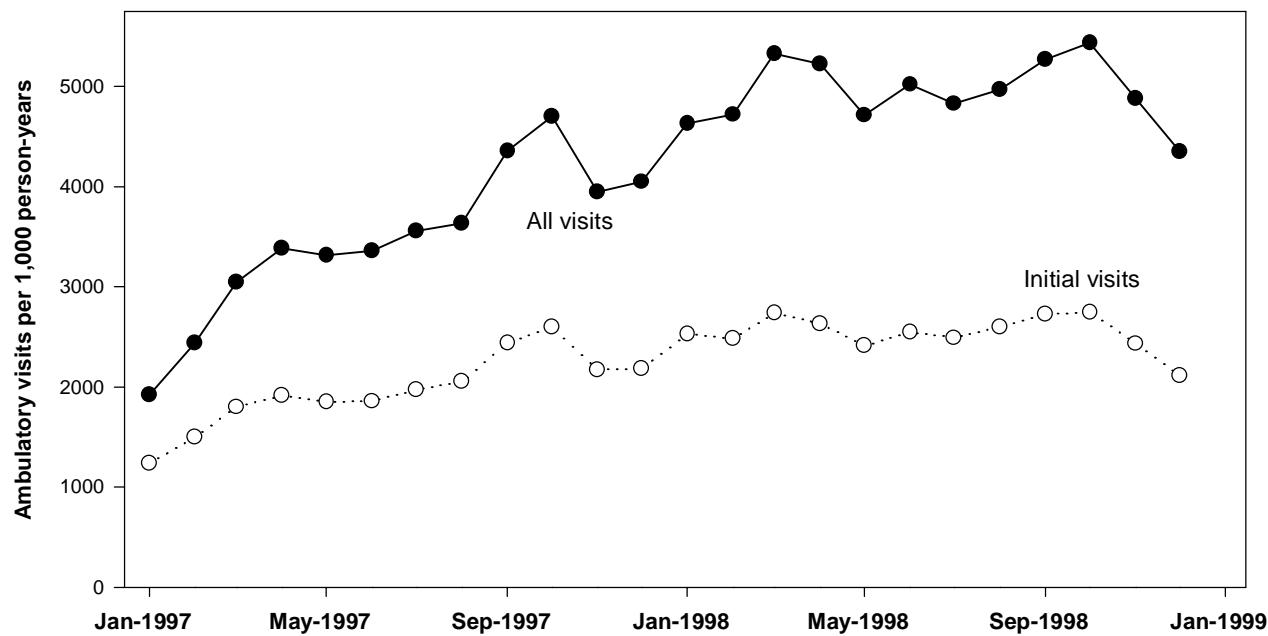
For this summary, each outpatient visit was classified as an initial or a followup. An initial visit was defined as the first reported visit since January 1996 of an individual soldier for a specific condition (based on the first 3-digits of the ICD-9-CM coded primary discharge diagnosis). All subsequent visits of the same individual for the same condition were considered followup visits. Figure 1 shows that

during 1998 approximately half of all outpatient visits were for new conditions.

The rate of outpatient visits among females (15,702.1 per 1000 person-yrs) was 2.2 times higher than the rate among males (7,163.9 per 1000 person-yrs). Among males, outpatient visit rates were "U-shaped" in relation to age, i.e., the highest rate was in the oldest group (>40 years old) and the next highest rate was in the youngest (<20 years old). Among females, outpatient visit rates declined with age through 35-39 years and then moderately increased in the 40 and older group.

Among both male and female soldiers, the most visits by far were for "musculoskeletal conditions" and "injuries and poisonings" (figure 2, page 20 and table S5, page 24). Figure 3 (pages 20 and 21) show relationships of outpatient visit rates with age and gender.

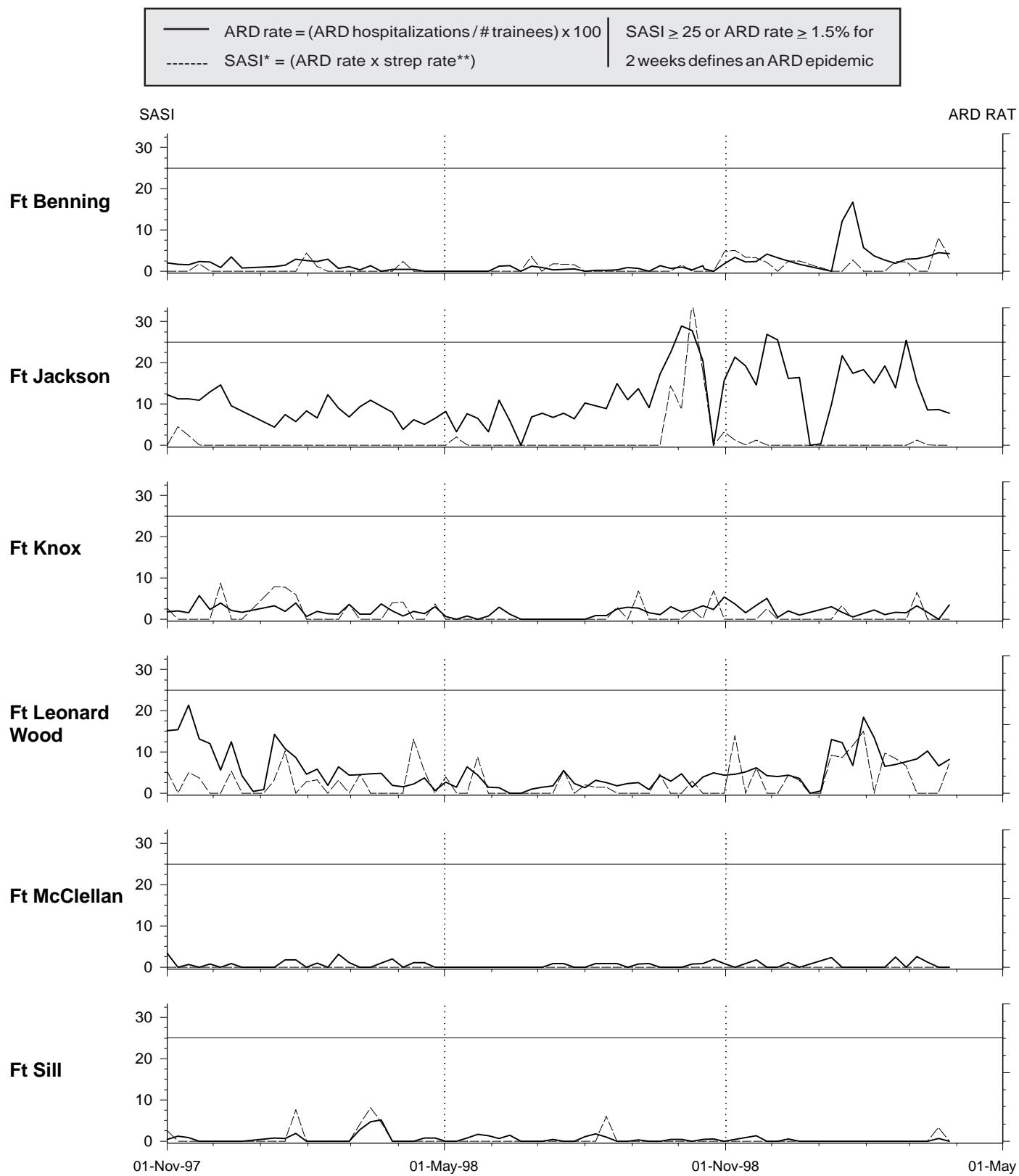
Figure 1. Ambulatory visit reports, active duty soldiers, 1997-1998



All visits: excludes visits not related to a current illness or injury (e.g. physical examinations, immunizations).

Initial visit: first visit since Jan 96 of an individual soldier for a specific condition (based on first 3 digits of ICD-9 coded primary diagnosis).

**Figure III. Acute respiratory disease (ARD) surveillance update
US Army initial entry training centers**



* SASI (Strep ARD Surveillance Index) is a reliable predictor of serious strep-related morbidity

** Strep rate = (Group A beta-hemolytic strep(+)) / # cultures) x 100

Figure 2. Ambulatory visit reports, by major diagnostic category, active duty soldiers, 1997-1998

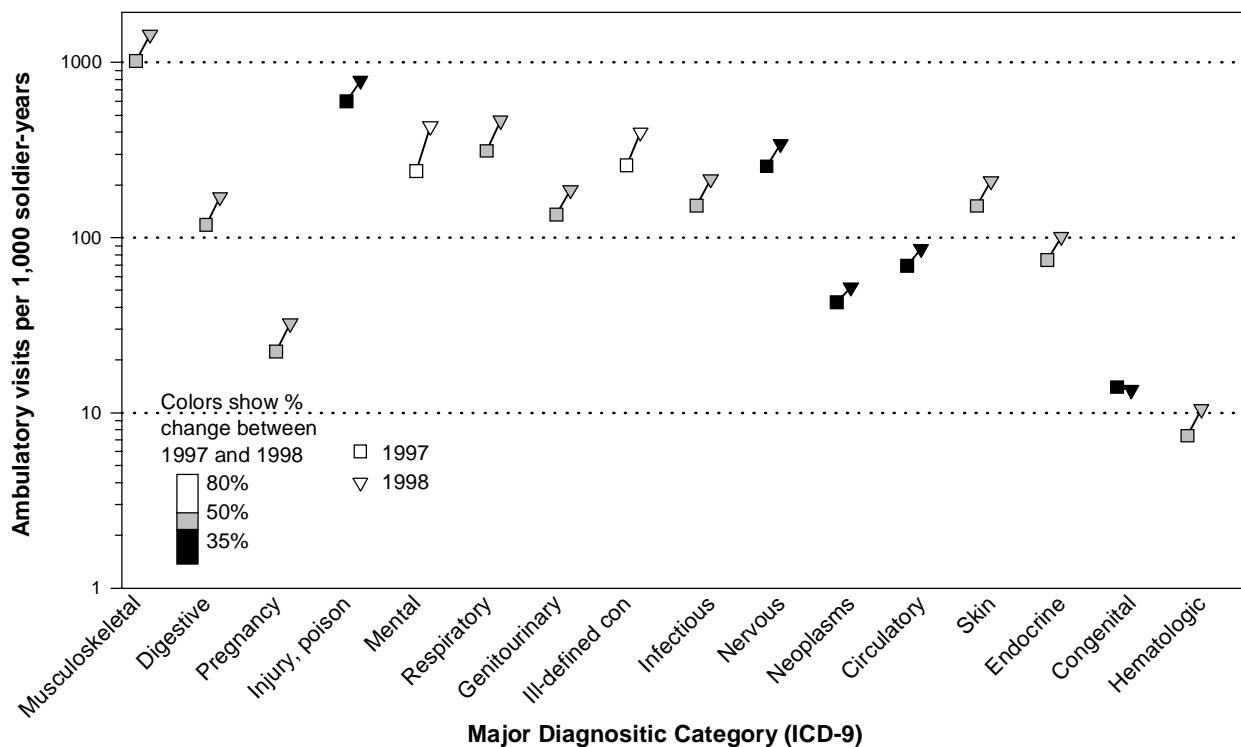
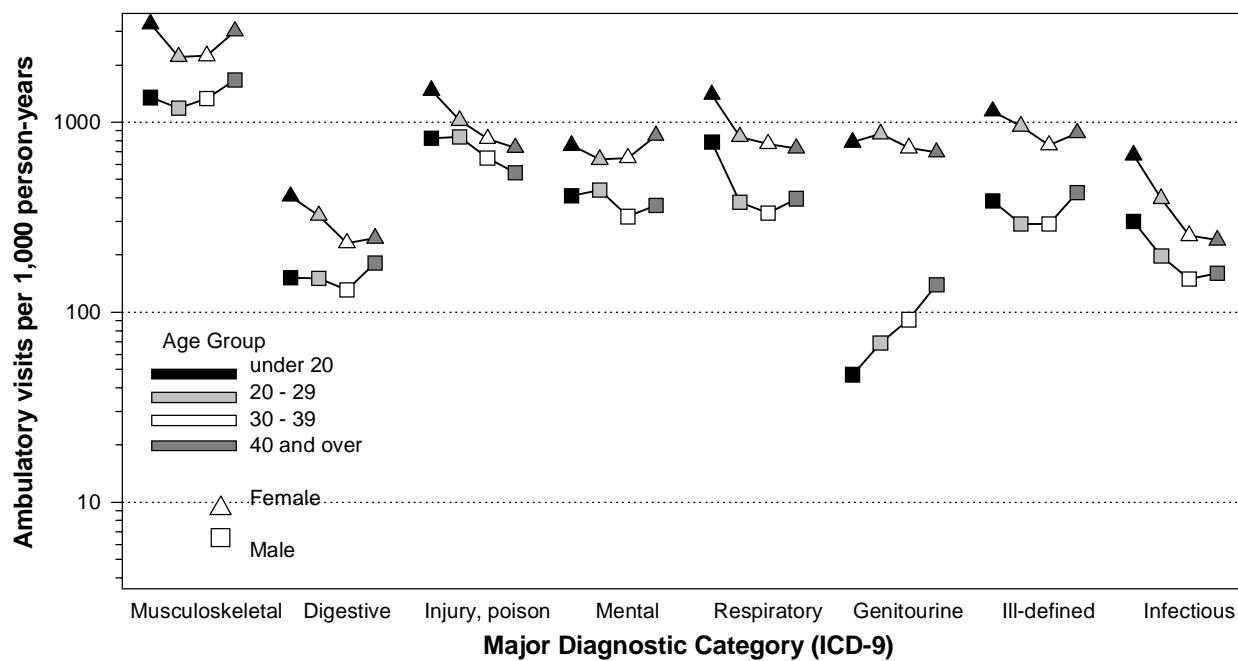


Figure 3. Ambulatory visit reports, by major diagnostic category, gender, and age group, active duty soldiers, 1998

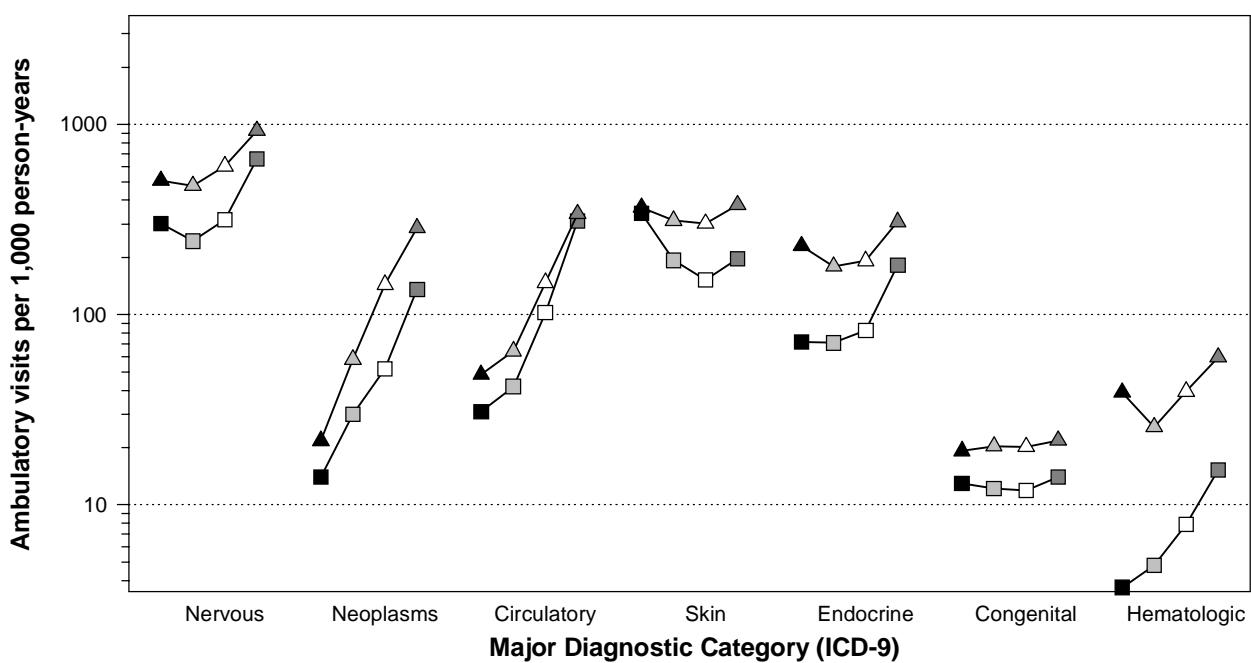


In each major diagnostic category, the outpatient visit rate among females was higher than the rate among comparably aged males. In each major diagnostic category except one (genitourinary), general relationships between outpatient visit rates and age were similar for males and females. For genitourinary disorders, outpatient visit rates increased sharply with age among males but decreased with age among females.

The table on pages 22 and 23 shows the five most frequently recorded diagnoses in each major diagnostic category. Among both males and females, the most frequent diagnoses by far were "other and unspecified disorders of the back" (ICD-9-CM: 724) — which includes "lumbago" (ICD-9-CM: 724.2), "sciatica" (ICD-9-CM: 724.3), and "backache, unspecified" (ICD-9-CM: 724.5)— and "other and unspecified disorders of joint" (ICD-9-CM: 719) — which includes "pain in joint" (ICD-9-CM: 719.4) and "stiffness of joint" (ICD-9-CM: 719.5).

Editorial comment: During 1998, each soldier had an average of 8.4 outpatient contacts with the military health care system. A significant proportion of the outpatient care of soldiers was preventive in nature, e.g., general medical examinations (n=328,898), vision, hearing, dental, and gynecological examinations (n=276,373), contraceptive and normal pregnancy management (n=112,036), and nutrition, exercise and general health-related counseling (n=201,221). Still, there were more than two million clinic visits for illnesses and injuries, and approximately half of them were follow-ups or recurrences of previously diagnosed conditions. Musculoskeletal conditions—particularly nonspecific back (n=159,188) and joint (n=156,180) pain—accounted for more ambulatory visits by far than any other category of illnesses or injuries. Clearly, there remain abundant opportunities to integrate primary, secondary, and tertiary prevention practices into the ambulatory medical care of soldiers.

Figure 3 (continued). Ambulatory visit reports, by major diagnostic category, gender, and age group, active duty soldiers, 1998



Top five outpatient visits, by major diagnostic category and gender, active duty soldiers, 1998

Males		
		n %
079	Viral and chlamydial infection	27432 35.8
078	Other diseases due to viruses and chlamydiae	17720 23.1
110	Dermatophytosis	9354 12.2
099	Other venereal diseases	3937 5.1
034	Streptococcal sore throat and scarlet fever	2513 3.3
	SUBTOTAL	76631 100
Neoplasms (ICD9 140 - 239)		
	n %	
216	Benign neoplasm of skin	4321 23.7
214	Lipoma	2588 14.2
186	Malignant neoplasm of testis	1003 5.5
173	Other malignant neoplasm of skin	960 5.3
239	Neoplasms of unspecified nature	910 5.0
	SUBTOTAL	18249 100
Endocrine, nutrition, immunity (ICD9 240 - 279)		
	n %	
278	Obesity and other hyperalimentation	12570 36.5
272	Disorders of lipid metabolism	7093 20.6
276	Disorders of fluid and electrolyte balance	5293 15.4
250	Diabetes mellitus	3994 11.6
244	Acquired hypothyroidism	1797 5.2
	SUBTOTAL	34451 100
Hematologic disorders (ICD9 280 - 289)		
	n %	
285	Other and unspecified anemias	1232 45.9
289	Other diseases of blood and blood-forming organs	379 14.1
286	Coagulation defects	268 10.0
287	Purpura and other hemorrhagic conditions	223 8.3
280	Iron deficiency anemias	208 7.7
	SUBTOTAL	2685 100
Mental disorders (ICD9 290 - 319)		
	n %	
303	Alcohol dependence syndrome	44274 27.7
305	Nondependent abuse of drugs	39560 24.7
309	Adjustment reaction	21912 13.7
296	Affective psychoses	13290 8.3
300	Neurotic disorders	9633 6.0
	SUBTOTAL	160082 100
Nervous system (ICD9 320 - 389)		
	n %	
367	Disorders of refraction and accommodation	44820 35.8
389	Hearing loss	12209 9.7
372	Disorders of conjunctiva	11112 8.9
382	Suppurative and unspecified otitis media	8025 6.4
346	Migraine	5433 4.3
	SUBTOTAL	125274 100
Circulatory system (ICD9 390 - 459)		
	n %	
401	Essential hypertension	16883 49.6
455	Hemorrhoids	4619 13.6
429	Ill-defined descriptions of heart disease	1929 5.7
414	Other forms of chronic ischemic heart disease	1759 5.2
427	Cardiac dysrhythmias	1721 5.1
	SUBTOTAL	34015 100
Respiratory system (ICD9 460 - 519)		
	n %	
465	Acute upper respiratory infections	49807 30.7
462	Acute pharyngitis	21384 13.2
477	Allergic rhinitis	18657 11.5
493	Asthma	13104 8.1
461	Acute sinusitis	12915 8.0
	SUBTOTAL	162164 100

Females		
		n %
079	Viral and chlamydial infection	11543 43.5
078	Other diseases due to viruses and chlamydiae	4284 16.1
112	Candidiasis	2001 7.5
110	Dermatophytosis	1684 6.3
054	Herpes simplex	1249 4.7
	SUBTOTAL	26530 100
Neoplasms (ICD9 140 - 239)		
	n %	
216	Benign neoplasm of skin	1340 20.2
174	Malignant neoplasm of female breast	1169 17.6
218	Uterine leiomyoma	994 15.0
214	Lipoma	403 6.1
239	Neoplasms of unspecified nature	300 4.5
	SUBTOTAL	6632 100
Endocrine, nutrition, immunity (ICD9 240 - 279)		
	n %	
278	Obesity and other hyperalimentation	5374 38.4
276	Disorders of fluid and electrolyte balance	2957 21.2
244	Acquired hypothyroidism	1532 11.0
272	Disorders of lipid metabolism	1176 8.4
250	Diabetes mellitus	766 5.5
	SUBTOTAL	13980 100
Hematologic disorders (ICD9 280 - 289)		
	n %	
285	Other and unspecified anemias	1426 60.7
280	Iron deficiency anemias	331 14.1
286	Coagulation defects	165 7.0
287	Purpura and other hemorrhagic conditions	136 5.8
289	Other diseases of blood and blood-forming organs	113 4.8
	SUBTOTAL	2348 100
Mental disorders (ICD9 290 - 319)		
	n %	
309	Adjustment reaction	11301 23.9
296	Affective psychoses	9542 20.2
303	Alcohol dependence syndrome	4831 10.2
300	Neurotic disorders	4569 9.7
311	Depressive disorder, not elsewhere classified	4366 9.3
	SUBTOTAL	47186 100
Nervous system (ICD9 320 - 389)		
	n %	
367	Disorders of refraction and accommodation	12122 31.4
346	Migraine	5039 13.0
372	Disorders of conjunctiva	3949 10.2
354	Mononeuritis of upper limb	3034 7.8
382	Suppurative and unspecified otitis media	2424 6.3
	SUBTOTAL	38660 100
Circulatory system (ICD9 390 - 459)		
	n %	
401	Essential hypertension	3384 45.7
455	Hemorrhoids	1045 14.1
454	Varicose veins of lower extremities	506 6.8
427	Cardiac dysrhythmias	496 6.7
429	Ill-defined descriptions of heart disease	270 3.6
	SUBTOTAL	7408 100
Respiratory system (ICD9 460 - 519)		
	n %	
465	Acute upper respiratory infections	18401 30.0
477	Allergic rhinitis	8081 13.2
462	Acute pharyngitis	7361 12.0
493	Asthma	6135 10.0
461	Acute sinusitis	5643 9.2
	SUBTOTAL	61422 100

Note: Percentages are relative to diagnostic category and gender-specific subtotals

Top five outpatient visits, by major diagnostic category and gender, active duty soldiers, 1998 (continued)

Males		
		n %
Digestive system (ICD9 520 - 579)		
558 Other noninfectious gastroenteritis and colitis	24188	40.2
530 Diseases of esophagus	7133	11.9
550 Inguinal hernia	5143	8.5
535 Gastritis and duodenitis	4138	6.9
564 Functional digestive disorders	2258	3.8
SUBTOTAL	60162	100
Genitourinary system (ICD9 580 - 629)		
599 Other disorders of urethra and urinary tract	7637	23.4
608 Other disorders of male genital organs	3712	11.4
604 Orchitis and epididymitis	3453	10.6
592 Calculus of kidney and ureter	3225	9.9
606 Infertility, male	2676	8.2
SUBTOTAL	32628	100
Pregnancy complications (ICD9 630 - 679)		
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
Skin diseases (ICD9 680 - 709)	n	%
692 Contact dermatitis and other eczema	19648	25.0
704 Diseases of hair and hair follicles	9749	12.4
706 Diseases of sebaceous glands	9650	12.3
682 Other cellulitis and abscess	8466	10.8
703 Diseases of nail	6564	8.4
SUBTOTAL	78595	100
Musculoskeletal system (ICD9 710 - 739)		
724 Other and unspecified disorders of back	130408	24.9
719 Other and unspecified disorders of joint	125422	24.0
726 Peripheral enthesopathies and allied syndromes	62397	11.9
729 Other disorders of soft tissues	61931	11.8
717 Internal derangement of knee	25350	4.8
SUBTOTAL	523265	100
Congenital anomalies (ICD9 740 - 759)		
756 Other congenital musculoskeletal anomalies	1566	31.2
754 Certain congenital musculoskeletal deformities	1294	25.8
755 Other congenital anomalies of limbs	836	16.7
757 Congenital anomalies of the integument	196	3.9
752 Congenital anomalies of genital organs	188	3.7
SUBTOTAL	5021	100
III-defined conditions (ICD9 780 - 799)		
786 Symptoms involving respiratory and chest	22289	17.6
784 Symptoms involving head and neck	18105	14.3
782 Symptoms involving skin	17816	14.1
789 Other symptoms involving abdomen and pelvis	15649	12.4
780 General symptoms	14268	11.3
SUBTOTAL	126488	100
Injury and poisoning (ICD9 800 - 999)		
844 Sprains and strains of knee and leg	41231	13.4
845 Sprains and strains of ankle and foot	39020	12.7
848 Other and ill-defined sprains and strains	28252	9.2
847 Sprains and strains of back	19165	6.2
995 Certain adverse effects not elsewhere classified	15092	4.9
SUBTOTAL	306651	100

Females		
		n %
Digestive system (ICD9 520 - 579)		
558 Other noninfectious gastroenteritis and colitis	10540	49.4
535 Gastritis and duodenitis	1922	9.0
564 Functional digestive disorders	1789	8.4
530 Diseases of esophagus	1650	7.7
536 Disorders of function of stomach	705	3.3
SUBTOTAL	21354	100
Genitourinary system (ICD9 580 - 629)		
599 Other disorders of urethra and urinary tract	12664	22.1
616 Inflammatory disease of cervix	10202	17.8
625 Pain associated with female genital organs	8296	14.5
626 Disorders of menstruation	6323	11.0
611 Other disorders of breast	4450	7.8
SUBTOTAL	57346	100
Pregnancy complications (ICD9 630 - 679)		
640 Hemorrhage in early pregnancy	2424	15.9
644 Early or threatened labor	2125	14.0
646 Other complications of pregnancy	1300	8.5
648 Other conditions complicating pregnancy	1169	7.7
634 Spontaneous abortion	981	6.5
SUBTOTAL	15209	100
Skin diseases (ICD9 680 - 709)		
692 Contact dermatitis and other eczema	5244	23.2
706 Diseases of sebaceous glands	3970	17.5
709 Other disorders of skin and subcutaneous tissue	2090	9.2
682 Other cellulitis and abscess	1878	8.3
703 Diseases of nail	1664	7.4
SUBTOTAL	22632	100
Musculoskeletal system (ICD9 710 - 739)		
724 Other and unspecified disorders of back	39368	23.4
719 Other and unspecified disorders of joint	38070	22.6
729 Other disorders of soft tissues	24183	14.4
726 Peripheral enthesopathies and allied syndromes	16920	10.0
733 Other disorders of bone and cartilage	7880	4.7
SUBTOTAL	168446	100
Congenital anomalies (ICD9 740 - 759)		
754 Certain congenital musculoskeletal deformities	418	29.1
756 Other congenital musculoskeletal anomalies	266	18.5
755 Other congenital anomalies of limbs	217	15.1
757 Congenital anomalies of the integument	198	13.8
759 Other and unspecified congenital anomalies	49	3.4
SUBTOTAL	1437	100
III-defined conditions (ICD9 780 - 799)		
789 Other symptoms involving abdomen and pelvis	15367	23.7
784 Symptoms involving head and neck	11154	17.2
795 Nonspecific abnormal histology	7411	11.5
786 Symptoms involving respiratory and chest	6412	9.9
782 Symptoms involving skin	6312	9.8
SUBTOTAL	64712	100
Injury and poisoning (ICD9 800 - 999)		
844 Sprains and strains of knee and leg	10327	14.7
845 Sprains and strains of ankle and foot	9280	13.2
848 Other and ill-defined sprains and strains	8006	11.4
995 Certain adverse effects not elsewhere classified	5454	7.8
847 Sprains and strains of back	5297	7.6
SUBTOTAL	70112	100

Supplement #2 (Ambulatory Visits Summary, 1998)**TABLE S5. Active Duty Ambulatory Visits, United States Army, 1998**

ICD-9 Category	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
Infectious and Parasitic Diseases	9694	25813	16975	10599	7640	5910	76631	4815	10056	5733	2785	1891	1250	26530	103161
Neoplasms	454	2981	3483	2928	3424	4979	18249	156	1122	1197	1084	1580	1493	6632	24881
Endocrine, Nutritional, and Metabolic Disease and Immunity Disorders	2322	8562	6793	4767	5329	6678	34451	1653	4117	3054	1971	1581	1604	13980	48431
Diseases of the Blood and Blood-Forming Organs	119	553	489	400	564	560	2685	280	569	456	371	360	312	2348	5033
Mental Disorders	13228	59962	34541	22077	16839	13435	160082	5413	14861	10501	6515	5465	4431	47186	207268
Diseases of the Nervous System and Sense Organs	9773	28183	24490	19611	18966	24251	125274	3647	10242	8748	5902	5278	4843	38660	163934
Diseases of the Circulatory System	1001	4382	4664	5188	7375	11405	34015	347	1274	1290	1300	1426	1771	7408	41423
Diseases of the Respiratory System	25480	48952	32725	22807	17671	14529	162164	9989	20329	13088	8262	5959	3795	61422	223586
Diseases of the Digestive System	4922	19216	13363	8668	7336	6657	60162	2923	8034	4842	2435	1843	1277	21354	81516
Diseases of the Genitourinary System	1517	7387	7424	6070	5105	5125	32628	5622	20615	13921	7994	5560	3634	57346	89974
Complications of Pregnancy, Childbirth, and the Puerperium*	18	99	92	47	28	20	304	1328	7155	3918	1847	757	204	15209	15513
Diseases of the Skin and Subcutaneous Tissue	11014	26323	15366	10338	8317	7237	78595	2623	7227	5234	3134	2445	1969	22632	101227
Diseases of the Musculoskeletal System and Connective Tissue	43599	142862	113085	85243	77092	61384	523265	23561	51243	36560	22771	18603	15708	168446	691711
Congenital Abnormalities	419	1471	1165	732	720	514	5021	138	449	363	214	159	114	1437	6458
Symptoms, Signs, and ill-Defined Conditions	12459	36750	26017	19239	16362	15661	126488	8181	23234	14721	8170	5823	4583	64712	191200
Injury and Poisoning	26673	104419	76592	46870	32208	19889	306651	10558	24099	16537	9006	6080	3832	70112	376763
Not currently sick/injured (V codes)	94944	336230	272878	192710	152882	124388	1174032	53445	182034	118075	62995	40548	28076	485173	1659205
All Outpatient Visits	257636	854145	650142	458294	377858	322622	2920697	134679	386660	258238	146756	105358	78896	1110587	4031284

* Includes normal delivery

TABLE S6. Active Duty Ambulatory Rates, United States Army, 1998*

ICD-9 Category	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
Infectious and Parasitic Diseases	299.5	212.9	179.1	151.6	145.2	160.8	187.9	671.4	439.4	337.5	262.1	240.2	239.5	374.9	215.6
Neoplasms	14.0	24.6	36.7	41.9	65.1	135.4	44.8	21.8	49.0	70.5	102.0	200.7	286.0	93.7	52.0
Endocrine, Nutritional, and Metabolic Disease and Immunity Disorders	71.7	70.6	71.7	68.2	101.3	181.7	84.5	230.5	179.9	179.8	185.5	200.9	307.3	197.6	101.2
Diseases of the Blood and Blood-Forming Organs	3.7	4.6	5.2	5.7	10.7	15.2	6.6	39.0	24.9	26.8	34.9	45.7	59.8	33.2	10.5
Mental Disorders	408.6	494.5	364.4	315.7	320.0	365.5	392.6	754.7	649.3	618.1	694.3	848.9	666.8	433.2	
Diseases of the Nervous System and Sense Organs	301.9	232.4	258.4	280.5	360.4	659.7	307.3	508.5	447.5	515.0	555.5	670.6	927.8	546.3	342.6
Diseases of the Circulatory System	30.9	36.1	49.2	74.2	140.1	310.3	83.4	48.4	55.7	75.9	122.4	181.2	339.3	104.7	86.6
Diseases of the Respiratory System	787.1	403.7	345.2	326.2	335.8	395.2	397.7	1392.8	888.3	770.4	777.6	757.1	727.0	868.0	467.3
Diseases of the Digestive System	152.0	158.5	141.0	124.0	139.4	181.1	147.6	407.6	351.0	285.0	229.2	234.2	244.6	301.8	170.4
Diseases of the Genitourinary System	46.9	60.9	78.3	86.8	97.0	139.4	80.0	783.9	900.8	819.5	752.4	706.4	696.2	810.4	188.0
Complications of Pregnancy, Childbirth, and the Puerperium**	0.6	0.8	1.0	0.7	0.5	0.5	0.7	185.2	312.6	230.6	173.8	96.2	39.1	214.9	32.4
Diseases of the Skin and Subcutaneous Tissue	340.2	217.1	162.1	147.8	158.0	196.9	192.8	365.7	315.8	308.1	295.0	310.6	377.2	319.8	211.6
Diseases of Musculoskeletal System and Connective Tissue	1346.8	1178.3	1193.0	1219.1	1464.8	1669.9	1283.4	3285.1	2239.1	2152.1	2143.2	2363.5	3009.2	2380.5	1445.6
Congenital Abnormalities	12.9	12.1	12.3	10.5	13.7	14.0	12.3	19.2	19.6	21.4	20.1	20.2	21.8	20.3	13.5
Symptoms, Signs, and ill-Defined Conditions	384.9	303.1	274.5	275.1	310.9	426.0	310.2	1140.7	1015.2	866.6	768.9	739.8	878.0	914.5	399.6
Injury and Poisoning	824.0	861.2	808.0	670.3	612.0	541.1	752.1	1472.1	1053.0	973.5	847.6	772.5	734.1	990.8	787.4
Not currently sick/injured (V codes)															
All Outpatient Visits	7958.6	7044.6	6858.6	6554.1	7179.8	8776.4	7163.4	18778.4	16895.0	15201.2	13812.3	13385.6	15114.2	15694.7	8425.1

* Rates are calculated per 1000 soldiers per year based on cumulative person time.

** Includes normal delivery

Source: Standard Ambulatory Data Record (SADR), Corporate Executive Information Systems (CEIS) Program Office

Surveillance trends

Reportable events among beneficiaries of health care, US Army, 1998

In June 1998, the Army modified its list of reportable events to be in accordance with the newly developed Tri-Service consensus list.^{1,2} The modification reduced the number of events/conditions that are reportable from over 80 to 70.

During 1998, US Army preventive medicine services worldwide reported 10,822 notifiable events—an average of nearly 30 per day. Although the list of reportable events was significantly reduced during the year, there were more reports (by approximately 8%) in 1998 compared to 1997.

Approximately 85% of reported events/conditions in 1998 were related to sexually transmissible diseases (STDs). More STDs were reported in 1998 than in 1997; however, chlamydial infections remained by far the most frequently reported STD. The increase in STD reports in 1998 may reflect enhanced detection of asymptomatic infections, higher infection rates, and/or more complete reporting.

There were significantly more influenza case reports in 1998 than in 1997. This increase reflects, at least in part, the enhanced efforts at some installations to identify agents responsible for "influenza-like" illnesses. There were fewer reports of varicella among soldiers in 1998 compared to 1997. (Of interest, there have been fewer reports—and no outbreaks—of varicella among sol-

ders in the first three months of 1999 compared to the similar period of 1998).

There were significantly more heat injury reports in 1998 compared to 1997. This increase reflects the record-setting heat that affected many regions of the United States during the late spring and summer. In regard to reportable illnesses related to environmental/occupational intoxications, there were fewer reports in 1998 than in 1997 of carbon monoxide intoxication (n=7), lead poisoning (n=4), and chemical agent exposure (n=1).

Finally, the numbers of reports of arthropod-transmitted diseases remained stable from 1997 (n=121) to 1998 (n=118). However, malaria reports increased by 25% between the years (1997 cases: 48; 1998 cases: 60), while cutaneous leishmaniasis reports declined by 85% (1997 cases: 26; 1998 cases: 4). The decline in leishmaniasis cases reflects at least in part the reduction of US Army forces permanently stationed in Central America (particularly Panama).

References

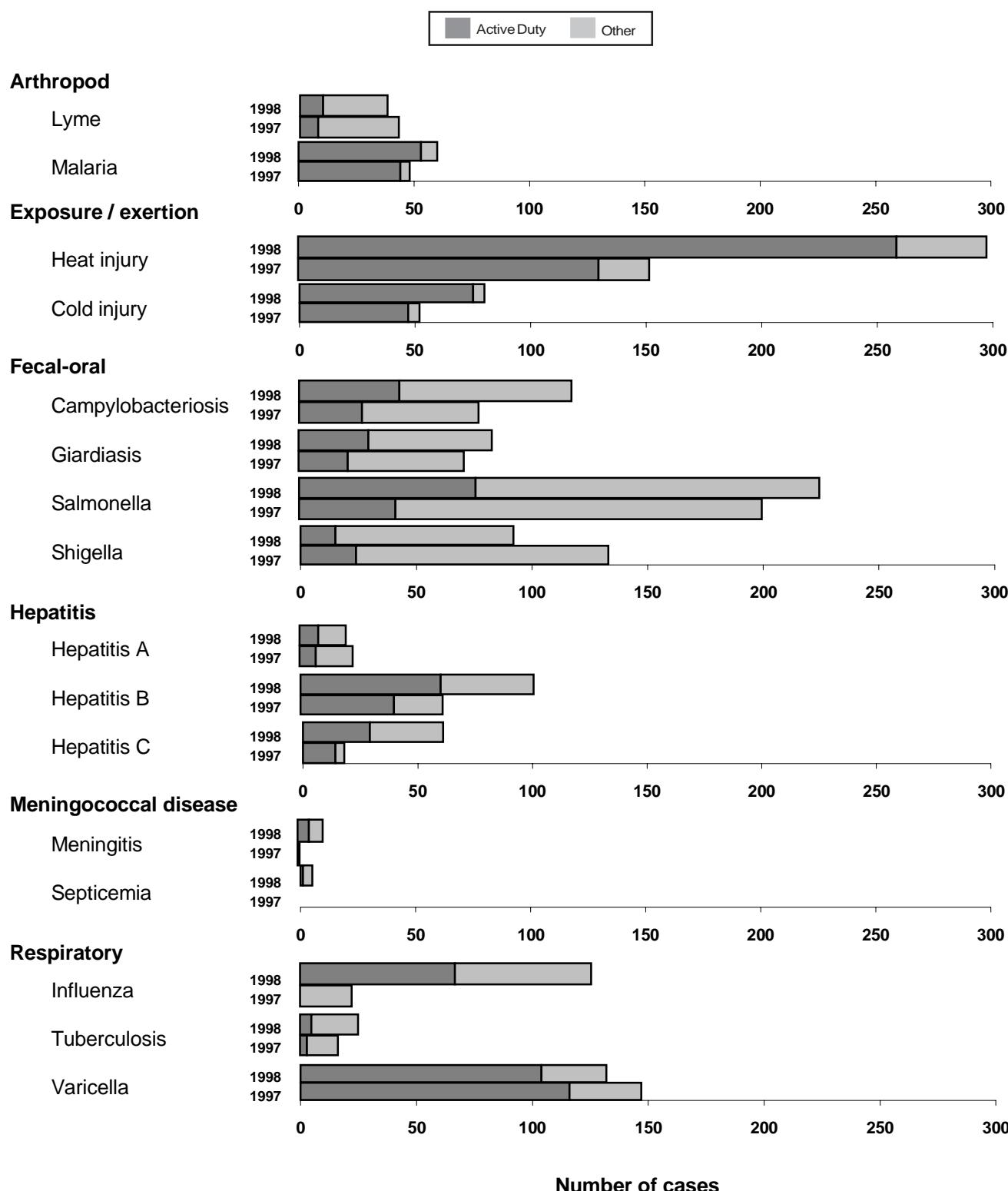
1. Memorandum, HQ, US Army Medical Command, 17 June 1998, Subject: Tri-Service Reportable Events List.
2. Memorandum, Office of the Assistant Secretary of Defense (Health Affairs), 6 November 1998, Subject: Tri-Service Reportable Events Document.

Supplement #3 (Reportable Events Summary, 1998)

TABLE S7. Reportable events reported through Medical Surveillance System, Jan-Dec 1998*

Diagnosis	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	Diagnosis	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Amebiasis	0	1	1	3	5	Listeriosis	0	0	0	0	0
Anthrax	0	0	0	0	0	Lyme disease	4	10	23	1	38
Biological warfare agent exp.	0	0	0	0	0	Malaria, falciparum	0	0	1	1	2
Botulism	0	0	0	0	0	Malaria, malariae	0	0	0	0	0
Brucellosis	0	0	0	0	0	Malaria, ovale	0	2	0	0	2
Campylobacteriosis	15	31	41	30	117	Malaria, unspecified	0	1	6	1	8
Carbon monoxide poisoning	5	0	1	1	7	Malaria, vivax	2	10	26	10	48
Chemical agent exposure	0	1	0	0	1	Measles	4	2	1	1	8
Chlamydia	1708	1536	1632	1476	6352	Mening., meningitis	1	1	7	2	11
Cholera	0	1	0	0	1	Mening., septicemia	0	0	3	2	5
Coccidioidomycosis	0	3	0	2	5	Mumps (adults only)	0	0	0	0	0
CWI, frostbite	39	1	0	19	59	Pertussis	2	5	1	2	10
CWI, hypothermia	6	0	0	0	6	Plague	0	0	0	0	0
CWI, immersion type	8	0	0	2	10	Pneumococcal pneum.	3	0	1	2	6
CWI, unspecified	4	1	0	0	5	Poliomyelitis	0	0	0	0	0
Cryptosporidiosis	0	1	3	0	4	Q fever	0	0	0	0	0
Cyclospora	0	0	0	0	0	Rabies, human	0	0	0	0	0
Dengue fever	0	1	2	3	6	Relapsing fever	0	0	0	0	0
Diphtheria	0	0	0	0	0	Rheumatic fever	1	0	0	1	2
E Coli 0157:H7	0	1	1	3	5	Rift Valley Fever	0	0	0	0	0
Ehrlichiosis	0	1	1	0	2	RMSF	0	3	3	0	6
Encephalitis	0	0	0	0	0	Rubella	0	0	0	0	0
Filariasis	0	0	0	0	0	Salmonellosis	36	55	56	80	227
Giardiasis	20	14	32	17	83	Schistosomiasis	0	0	0	0	0
Gonorrhea	558	485	542	420	2005	Shigellosis	18	17	20	37	92
H. influenzae, invasive	1	0	0	0	1	Streptococcus, group A inv.	1	0	0	0	1
Hantavirus infection	0	0	0	2	2	Syphilis, congenital	0	0	1	0	1
Heat exhaustion	6	82	118	4	210	Syphilis, latent	2	13	6	12	33
Heat stroke	7	31	44	4	86	Syphilis, prim/sec	8	10	18	16	52
Hemorrhagic fever	0	0	0	0	0	Syphilis, tertiary	2	4	5	5	16
Hepatitis A, acute	6	7	4	3	20	Tetanus	1	0	0	0	1
Hepatitis B, acute	27	25	31	17	100	Toxic shock syndrome	2	1	1	0	4
Hepatitis C, acute	16	11	19	15	61	Trichinellosis	0	0	0	0	0
Influenza	119	0	2	9	130	Trypanosomiasis	0	0	0	1	1
Lead poisoning	1	1	1	1	4	Tuberculosis, pulmonary	5	6	4	11	26
Legionellosis	0	0	0	0	0	Tularemia	0	0	0	0	0
Leish, cutaneous	3	0	0	1	4	Typhoid fever	0	0	0	0	0
Leish, mucocutaneous	0	0	0	0	0	Typhus fever	0	0	0	0	0
Leish, unspecified	0	0	0	0	0	Urethritis, non-specific	252	221	183	124	780
Leish, visceral	0	0	1	0	1	Vaccine advrs event	0	5	5	4	14
Leprosy	0	0	0	0	0	Varicella, adult only	76	34	4	18	132
Leptospirosis	0	0	0	4	4	Yellow fever	0	0	0	0	0
						Total	2969	2635	2851	2367	10822

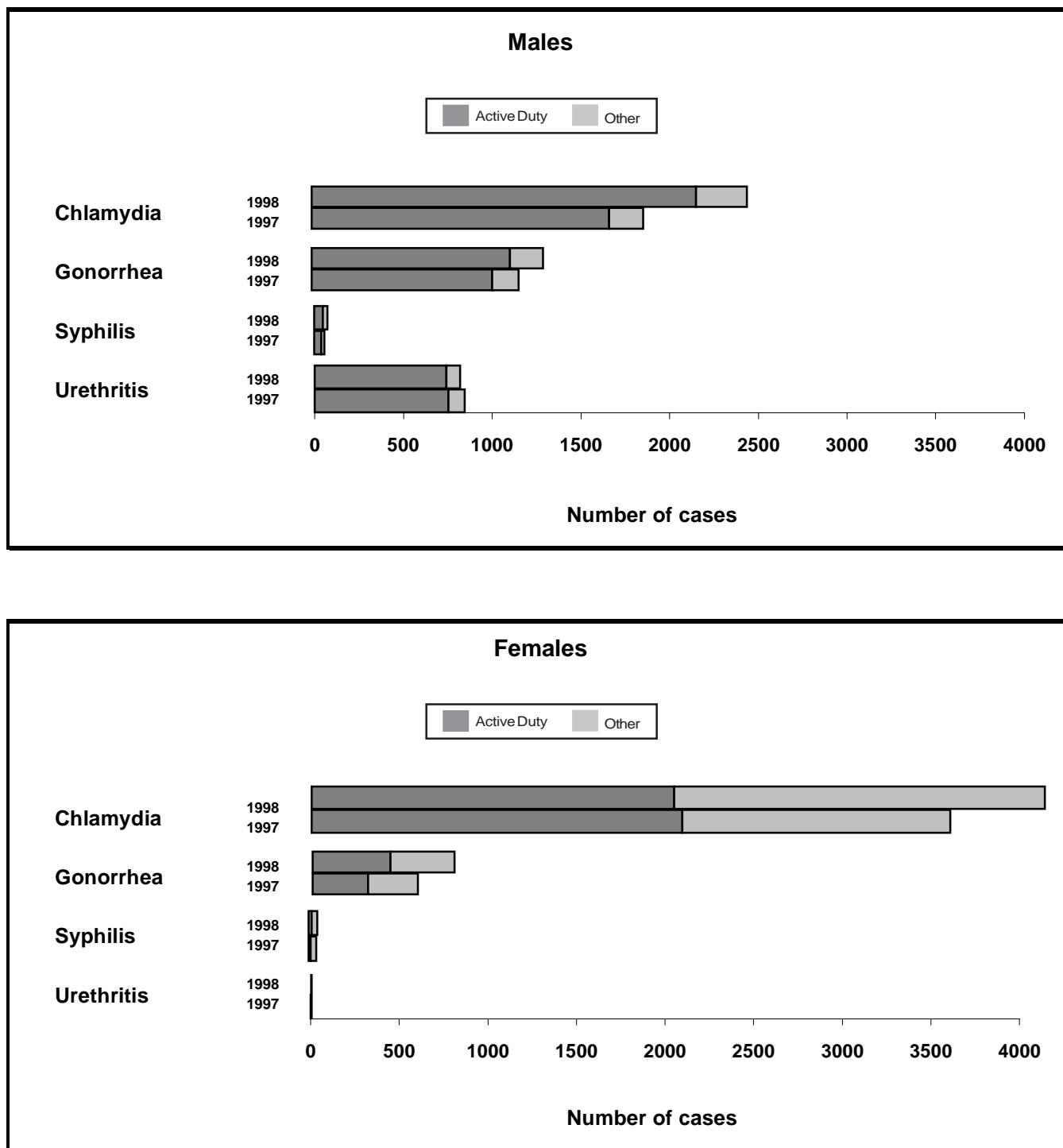
FIGURE S1. Sentinel reportable events, United States Army*
Calendar years 1997 and 1998



* Based on date of onset.

** Reports are included from main and satellite clinics. Not all sites reporting.

FIGURE S2. Sentinel reportable STDs, United States Army*
Calendar years 1997 and 1998, by gender



* Based on date of onset.

** Reports are included from main and satellite clinics. Not all sites reporting.

TABLE S8. Active duty force strength by MTF, United States Army, December, 1998*

MTF/Post**	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
NORTH ATLANTIC RMC															
Walter Reed AMC	149	2590	1921	1682	1784	2999	11125	31	639	656	506	520	604	2956	14081
Aberdeen Prov. Ground, MD	698	492	264	325	370	371	2520	77	89	78	66	44	39	393	2913
FT Belvoir, VA	10	182	296	316	295	387	1486	6	80	133	88	82	70	459	1945
FT Bragg, NC	1742	11918	8705	6269	4121	2346	35101	284	1695	1253	683	455	231	4601	39702
FT Drum, NY	779	3732	2407	1392	941	471	9722	115	473	246	154	88	47	1123	10845
FT Eustis, VA	785	1458	1240	963	901	800	6147	149	463	336	183	166	107	1404	7551
FT Knox, KY	2212	3326	2235	1734	1547	948	12002	47	207	207	145	98	75	779	12781
FT Lee, VA	1185	891	688	603	471	391	4229	611	394	261	176	133	89	1664	5893
FT Meade, MD	82	675	962	928	663	856	4166	33	270	320	216	173	151	1163	5329
West Point, NY	29	481	270	610	502	555	2447	3	85	70	117	80	65	420	2867
GREAT PLAINS RMC															
Brooke AMC	593	678	947	1000	794	936	4948	386	330	407	339	275	306	2043	6991
Wm Beaumont AMC	664	2291	1767	1259	1086	1092	8159	117	643	457	214	161	154	1746	9905
FT Carson, CO	637	4524	3489	2136	1562	855	13203	128	765	467	245	175	93	1873	15076
FT Hood, TX	1970	13216	8994	5535	3747	2257	35719	386	2441	1567	870	623	334	6221	41940
FT Huachuca, AZ	410	903	930	715	548	430	3936	121	311	210	127	119	101	989	4925
FT Leavenworth, KS	44	295	492	800	1013	721	3365	24	98	71	88	104	51	436	3801
FT Leonard Wood, MO	1235	1372	1009	1010	791	459	5876	581	554	305	197	102	64	1803	7679
FT Polk, LA	371	2498	1715	1263	794	389	7030	53	474	266	158	96	61	1108	8138
FT Riley, KS	661	3708	2241	1300	867	461	9238	85	480	253	136	95	56	1105	10343
FT Sill, OK	1942	4323	2922	1840	1320	826	13173	100	469	326	201	119	76	1291	14464
Panama	25	396	464	443	363	267	1958	8	51	70	33	21	15	198	2156
SOUTHEAST RMC															
Eisenhower AMC	1488	1617	1363	1122	1169	1215	7974	364	545	459	311	337	233	2249	10223
FT Benning, GA	4124	5526	3341	2030	1385	758	17164	95	490	393	225	157	66	1426	18590
FT Campbell, KY	1144	7180	5644	3482	2375	1117	20942	151	1059	694	405	221	102	2632	23574
FT Jackson, SC	1851	1370	841	932	741	468	6203	1006	878	529	355	206	102	3076	9279
FT McClellan, AL	845	623	474	509	528	406	3385	295	223	147	123	100	60	948	4333
FT Rucker, AL	109	670	1057	646	472	431	3385	60	202	139	64	47	30	542	3927
FT Stewart, GA	941	6251	4320	2605	1851	990	16958	181	1079	737	385	244	127	2753	19711
WESTERN RMC															
Madigan AMC	839	5030	3772	2513	1858	1288	15300	129	874	624	332	230	209	2398	17698
FT Irwin, CA	206	1356	944	736	553	266	4061	22	176	125	76	52	29	480	4541
FT Wainwright, AK	240	1976	1815	974	598	292	5895	46	322	250	145	115	50	928	6823
OTHER LOCATIONS															
Tripler AMC	488	4214	3670	2107	1539	911	12929	95	816	740	418	283	189	2541	15470
Europe	1331	15105	13705	8565	6092	4039	48837	341	3122	2373	1305	931	615	8687	57524
Korea	1227	7285	5380	3937	3140	1986	22955	333	1342	965	618	460	276	3994	26949
Other/Unknown	1681	4579	6791	8029	6677	4876	32633	509	1046	1126	963	801	454	4899	38436\$
Total	32737	122731	97075	70310	53458	37860	414171	6972	23185	17260	10667	7913	5331	71328	486403

* Based on duty zip code. Does not account for TDY.

** Includes any subordinate catchment areas not listed separately.

§ Includes unknown age groups and unknown gender.

Source: Defense Manpower Data Center (DMDC)

DEPARTMENT OF THE ARMY
U.S. Army Center for Health Promotion
and Preventive Medicine
Aberdeen Proving Ground, MD 21010-5422

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